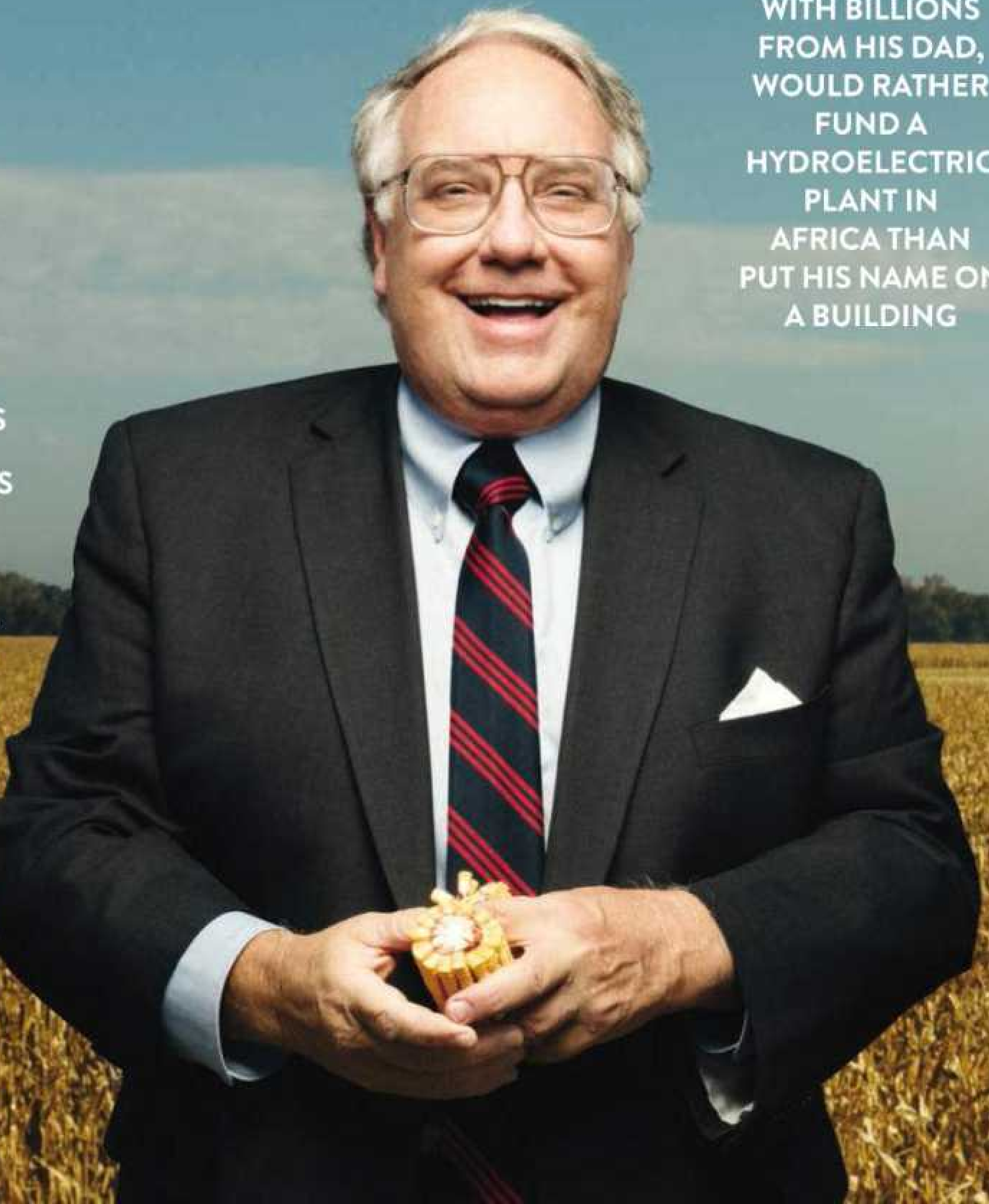
DECEMBER 2015

Bloomberg Markets

THE WEALTH ISSUE

GIVING WITH PURPOSE

WHY HOWARD BUFFETT, WITH BILLIONS FROM HIS DAD, WOULD RATHER FUND A HYDROELECTRIC PLANT IN AFRICA THAN PUT HIS NAME ON A BUILDING



THE RICHEST FAMILY OFFICES

ALL THE QUEEN'S REAL ESTATE

PLUS: VINTAGE CARS, WINE VAULTS, PORCELAIN, AND ... FOSSILS

Financial Sector SPDR ETF

Top Ten Holdings*

XLF - FINANCIAL

	Company Name	Symbol	Weight
1	Berkshire Hathaway B	BRK.b	8.74%
2	Wells Fargo	WFC	8.58%
3	JP Morgan Chase	JPM	8.06%
4	Bank of America	BAC	5.83%
5	Citigroup	C	5.34%
6	American Intl Group	AIG	2.63%
7	Goldman Sachs	GS	2.50%
8	US Bancorp	USB	2.43%
9	American Express	AXP	2.26%
10	Simon Property	SPG	2.03%

** Components and weightings as of 9/30/15.*
Please see website for daily updates. Holdings subject to change.

stocks. Investors cannot invest directly in an index. The S&P 500 Index figures do not reflect any fees, expenses or taxes. Ordinary brokerage commissions apply. ETFs are considered transparent because their portfolio holdings are disclosed daily. Liquidity is characterized by a high level of trading activity.

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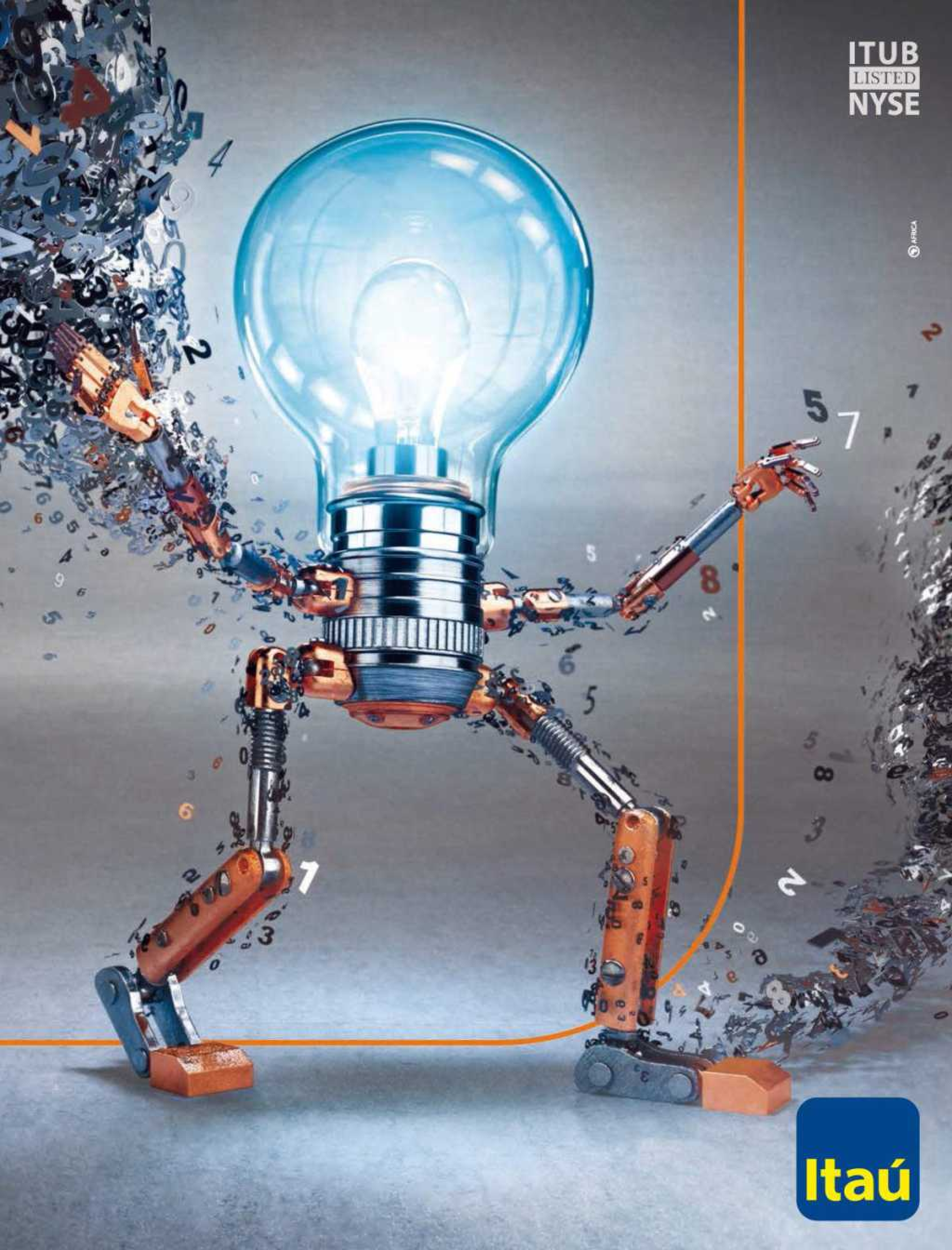
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A Global Partnership That Works

Germany and the U.S. are a perfect industry fit

KEVIN ANDERSON/GETTY IMAGES

The global economy is set to grow by 3.3 percent in 2015 according to the IMF, rising to 3.8 percent in 2016. International economic confidence is returning, but much remains to be done to counter geopolitical change and risks in emerging economies. In an age of fluid global markets, the special economic relationship enjoyed by America and Europe is more important than ever before.

Together, Europe and the U.S. account for about one-third of global trade, and combined transatlantic GDP represents around half of global economic output. At the center of this robust interaction are the U.S. and Germany. The importance of the U.S. as an investor in Europe also cannot be overestimated—it drives 25 percent of investment projects, according to Ernst and Young (EY). The U.S. is also by some distance the largest investor in Germany.

The flip side of the coin is Germany's continued importance to the U.S. economy. Germany is the fifth biggest export market for the U.S., with $47 billion worth in 2013 alone. As the seventh-largest investor in the U.S., Germany is also a major contributor to American economic growth and prosperity. More than 10 percent of in-sourced jobs in the U.S. are created by German-owned companies, making Germany the third-biggest foreign provider of jobs on American soil.

According to EY, a resurgent economy and a depreciating euro have helped increase the attractiveness of Europe as a manufacturing destination—equivalent to a 20 percent year-on-year increase in foreign direct investment levels. A seven percent investment increase saw U.S. companies create 39 percent more jobs in 2014 compared to 2013.

Germany's economy is also in excellent shape. Employment levels are at an all-time high, with unemployment rates continuing to fall and labor market developments making a real difference to the wider economy. All of which contributed to a GDP increase of 1.5 percent in 2014 (GDP total of €2.9 trillion), with the German government forecasting a GDP increase of 1.8 percent for 2015 and 2016 respectively.

These are all auspicious signs for the HANNOVER MESSE 2016, the world's leading industrial technology expo, at which the U.S. will be the partner country for the first time. With both the U.S. and Germany putting advanced manufacturing in the policy foreground, the event promises to provide a technology showcase for increasing the already strong flow of trans-Atlantic trade and investment.

Training programs like MAT^2 in Michigan, KY FAME in Kentucky, and the ICATT initiative in Illinois have successfully looked across the Atlantic to Germany's dual education system to redress the problems of a widening skills gap and a depleted workforce. A number of German companies are playing an instrumental role in supporting these endeavors, ranging from automotive supplier BorgWarner to photonics provider Jenoptik and mechatronics technology supplier Wittenstein. In January 2015, automation technology provider offshoot Festo Didactic opened a "CPCC Learning Center of Excellence" in Eatontown, N.J. The National Network for Manufacturing Innovation (NNMI) is providing a research infrastructure for science and industry partners in much the same way as Germany's environment of industry clusters does to innovative start-ups and SMEs.

The factors that make Germany so attractive for U.S. investors—a strong manufacturing base, technological leadership and a highly skilled workforce—are also opening doors for German SMEs in the U.S.

Looking to the future, Germany and the U.S. remain united by a shared sense of purpose and vision. Free trade remains the motor for growth and employment on both sides of the Atlantic. So while many countries may talk of a "special relationship" with the U.S., in the case of Germany it's actually true. — *David Gould*

In an age of fluid global markets, the special economic relationship enjoyed by America and Europe is more important than ever. And at the center of this robust interaction are the U.S. and Germany.

December

volume 24 / number 11

‘Our money should be the risk capital of philanthropy. Our money should go to the first places that no one else wants to go to.’ *Howard Buffett, page 30*

FEATURES **THE WEALTH ISSUE**

PHOTOGRAPH BY JOHN MIDGLEY

FINDING LOW VOLATILITY IN A TUMULTUOUS MARKET

In up and down markets, alternative weighting strategies may hold the key

Investors who have counted on traditional portfolios of market-cap weighted equities to hold their value through periods of extreme volatility may want to consider alternative indices at this point in time. As of mid-October, the S&P 500 Index was down over 3 percent for the year, and volatility appears to be the new weather system of the global marketplace.

Yet for risk-averse investors seeking the upside of the market with less downside risk, smart beta exchange traded funds, or ETFs, may be the solution. (Beta is a measure of risk representing how a security is expected to respond to general market movements. Smart beta is an alternative, selection-based methodology that seeks to outperform benchmark indices.)

"There's been a real bias toward market-cap weighting as the main benchmark for investing while limiting investors' exposure to undervalued stocks," says Dan Draper, Managing Director and Head of Invesco PowerShares, a provider of smart beta ETFs and factor investing products. "But if the fundamental intrinsic value of companies is overestimated, it can lead to a distortion. This is where smart beta and factor investing come in, providing a systematic way of trying to take advantage of mispricing."

Back in 2007, some institutional investors and money managers began gravitating to smart beta ETFs. During that period of volatility, they diversified their portfolios from strictly market-cap weighted indexes to a mix of custom indices, alternative weighting strategies and the use of filters for factoring elements—low volatility, momentum, dividends, value—that had been outperforming the market-cap weighted indexes while, at the same time, investors were seeking to reduce risk.

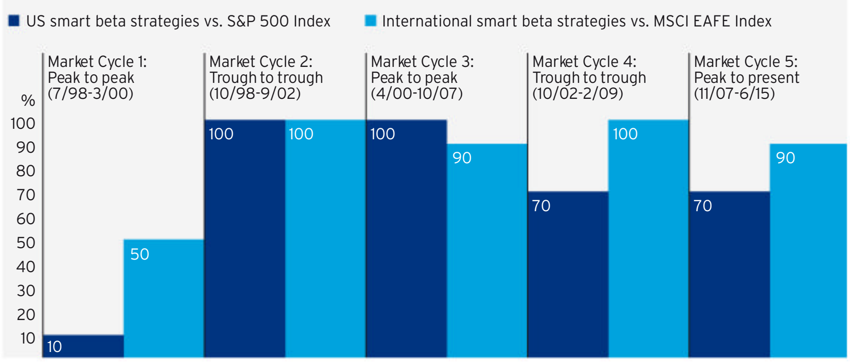
Launched in 2011, the PowerShares S&P 500 Low Volatility Portfolio (SPLV) was the first custom strategy comprised of an allocation of stocks with histories of lower price fluctuations. The fund is based on the S&P 500 Low Volatility Index of 100 stocks with the lowest realized volatility over the past 12 months. Its appeal is less volatile returns—and it can head wildly in either direction in this investing climate.

A higher level of volatility understandably makes many investors uncomfortable. "They're asking, 'How can I maintain an equity allocation but do it in a less volatile way?'" says Draper. "What we're trying to do through SPLV is to provide some reallocation, so that when the S&P 500 goes higher, we believe this strategy will allow investors to participate in the majority of the upside. However, when the markets go down, their investment may be less volatile and not as exposed to the downside.

"It's a matter of applying the simple, unconstrained screen built into the strategy that looks at the 100 least volatile stocks within the S&P 500 universe and weights the index in a way that favors the least volatile ones," Draper adds.

As a result, SPLV and other PowerShares products are gaining traction among individual investors, financial advisors and large institutional investors. The fund currently has some $4.87 billion in assets under management. Naturally, SPLV has been down this year along with the rest of the markets, but not nearly as much as the S&P 500 or MSCI EAFE (an index designed to measure equity performance outside the U.S. and Canada), and it has outperformed both indices for a number of years.

Most smart beta strategies delivered excess returns during 4 of 5 market cycles
% of strategies that delivered excess returns by market cycle



Source: FactSet Research Systems as of June 30, 2015. Past performance does not guarantee future results.
An investment cannot be made directly into an index. Index returns do not reflect any fees, expenses or sales charges.

Despite the adage that risk and return are inextricably linked, SPLV is a contrarian strategy that seems to dismiss this notion. Draper and colleagues believe contrarian views of volatility may help investors avoid the "herd mentality" that can keep them from reallocating portfolios to alternative weighted stocks.

Analyzing historical pricing and performance data for the major indices, Invesco PowerShares found that, relative to their risk level, small-cap companies actually produce higher long-term returns than large market-cap weighted companies. As Draper notes, "Companies with cheaper valuation over longer periods of time have given investors additional risk premium."

"Getting Smart About Beta," an Invesco PowerShares study examining the impact of smart beta equity methodologies on market cycles over a five-year period, supports using past volatility to predict future volatility for succeeding three-month periods. Of the 100 least volatile companies from the previous year, on average, 58 remained "least volatile," while 24 moved to the next-lowest volatility grouping over the next three months (see accompanying graph).

Looking at historical data to understand different sources of return and attribute them to specific factors has become a practical way for investors to use factor investing and alternative weighting strategies to build more diversified portfolios.

PowerShares' SPLV and other individual factor products may well represent a post-recession, early-recovery cycle of change in how portfolios can be reconfigured. "Rather than a different mindset, it's an additive mindset," Draper says. "The unprecedented levels of market volatility we've seen in the past 15 to 20 years have shown that traditional markets didn't hold their value. What we're trying to do is give investors a toolkit of factor products for building better portfolios. By replacing some portion of the S&P 500 index with SPLV, we believe there is potential to realize a greater benefit." — *Tom Connor*

"THE UNPRECEDENTED LEVELS OF MARKET VOLATILITY WE'VE SEEN IN THE PAST 15 TO 20 YEARS HAVE SHOWN THAT TRADITIONAL MARKETS DIDN'T HOLD THEIR VALUE."

December

FEATURES (CONTINUED)

COMMENTARY

AGENDA

STRATEGIES

ON THE COVER
PHOTOGRAPH BY **JOHN MIDGLEY**

PHOTOGRAPH BY **SPENCER LOWELL**

Editor's View

Restless Wealth

WEALTH, THESE DAYS, can be defined by what it's not. Wealth isn't evenly distributed. The world's 400 richest people may have lost $115 billion this year, through Sept. 30, but their collective net worth of $3.9 trillion is still equivalent to a stunning 5 percent of global GDP (**"WINNERS AND LOSERS,"** page 64).

'We think of what we do as an investment,' says Howard Buffett, whose foundation funds projects in Africa.

Wealth isn't quiet—even when it's being given away. Howard Buffett, whose foundation funds projects in the developing world, approaches philanthropy with the practicality of a Midwestern farmer. "We try to avoid charity, if we can," says Buffett, whose father, Warren, is the world's third-richest person (**"GETTING HIS HANDS DIRTY,"** page 30). "We think of what we do as an investment. If you look at what we're doing in Democratic Republic of the Congo, where we're building three hydroelectric plants, that's an investment."

Wealth doesn't take care of itself. That's why scores of family offices and registered investment advisers are frenetically vying to manage the fortunes of the rich, superrich, and ultrarich. "This is a referral business, and it's one of the most competitive ones you can be in," says Richard Hough III, CEO of Silvercrest Asset Management Group, the second-fastest-growing firm in our annual ranking of family offices (**"FAMILY FRENZY,"** page 54).

Wealth doesn't rest on its laurels. Just ask Simon Kidston, the British entrepreneur who's built a lucrative business arranging the sale of vintage cars—including a pair of 1963 Ferrari 250 GTOs worth as much as $50 million each—for well-wheeled clients (**"AH, THE SMELL OF CASTROL IN THE MORNING,"** page 68). Kidston doesn't just broker deals; he loves to own and drive these classic roadsters himself. "It shows we are living the lifestyle," he says, "not just selling it."

Ron Henkoff

EXECUTIVE EDITOR

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Letters

TWEETS

Sounding Off on the Most Influential

NOVEMBER 2015

On Janet Yellen

BiKambo Ludovic SEHI

She's already made history as the first woman to lead the Fed. Now she's Bloomberg Markets' Most Influential... fb.me/JaC5j3XV

BIKAMBO LUDOVIC SEHI
Sharjah, United Arab Emirates

On (Lack of) Vladimir Putin

Michael Gofman

"Bloomberg Markets 50 Most Influential". They compiled a pretty good list. Surprised that Putin was left out. bloomberg.com/features/2015- ...

MICHAEL GOFMAN
Assistant professor of finance
University of Wisconsin, Madison

On Michael Kim

Haverford College

Michael Kim '85 is in good company (Pope Francis & Janet Yellen!) on Bloomberg Markets 50 Most Influential list hav.to/1mu

Power, Money, and Ideas: Bloomberg Markets 50 Most Influ...

Haverford College
Haverford, Pennsylvania

On Narendra Modi

Madhura Karnik

Bloomberg Markets' Most Influential 50 list: Narendra Modi in, Raghuram Rajan out qz.com/516933

MADHURA KARNIK
Business journalist at Quartz
Mumbai

On (Lack of) Lawyers

Casey Sullivan

What's going on here? No big lawyers in Bloomberg @markets 50 Most Influential People List? bol.bna.com/is-the-sun-ris... @gabethefriedman unpacks

CASEY SULLIVAN
Legal journalist
New York

"Doing Business With the General"

NOVEMBER 2015

Jose Cardenas

Top-notch journalism by @SmithMarkets....

Want to Invest in #Cuba? Meet Your Partner, Castro's Son-In-Law bloom.bg/1KK4TV0 @business

JOSÉ R. CÁRDENAS
Director, VisionAmericas
Washington

"Gross vs. Gross"

JULY/AUGUST 2015

Who cares about Gross, other than Gross? And he cares an awful lot about himself. You made him as interesting as he can be.

ERIK GORDON
Ross School of Business,
University of Michigan, Ann Arbor

UPDATE

Katsuyama's New Venture

Brad Katsuyama wants to put his homegrown trading platform made famous by Michael Lewis in *Flash Boys* on equal footing with the New York Stock Exchange and the Nasdaq Stock Market. In September, his IEX Group made that move by asking the U.S. Securities and Exchange Commission to allow the platform, called Investors Exchange, to become a stock exchange. In "Brad Katsuyama's Next Chapter" (October 2015), *Bloomberg Markets* chronicled his post–*Flash Boys* efforts to blunt the advantages he says some speed traders use to cheat other investors. **JEREMY KAHN**

INFORMATION FOR READERS

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AGENDA

Risky Business

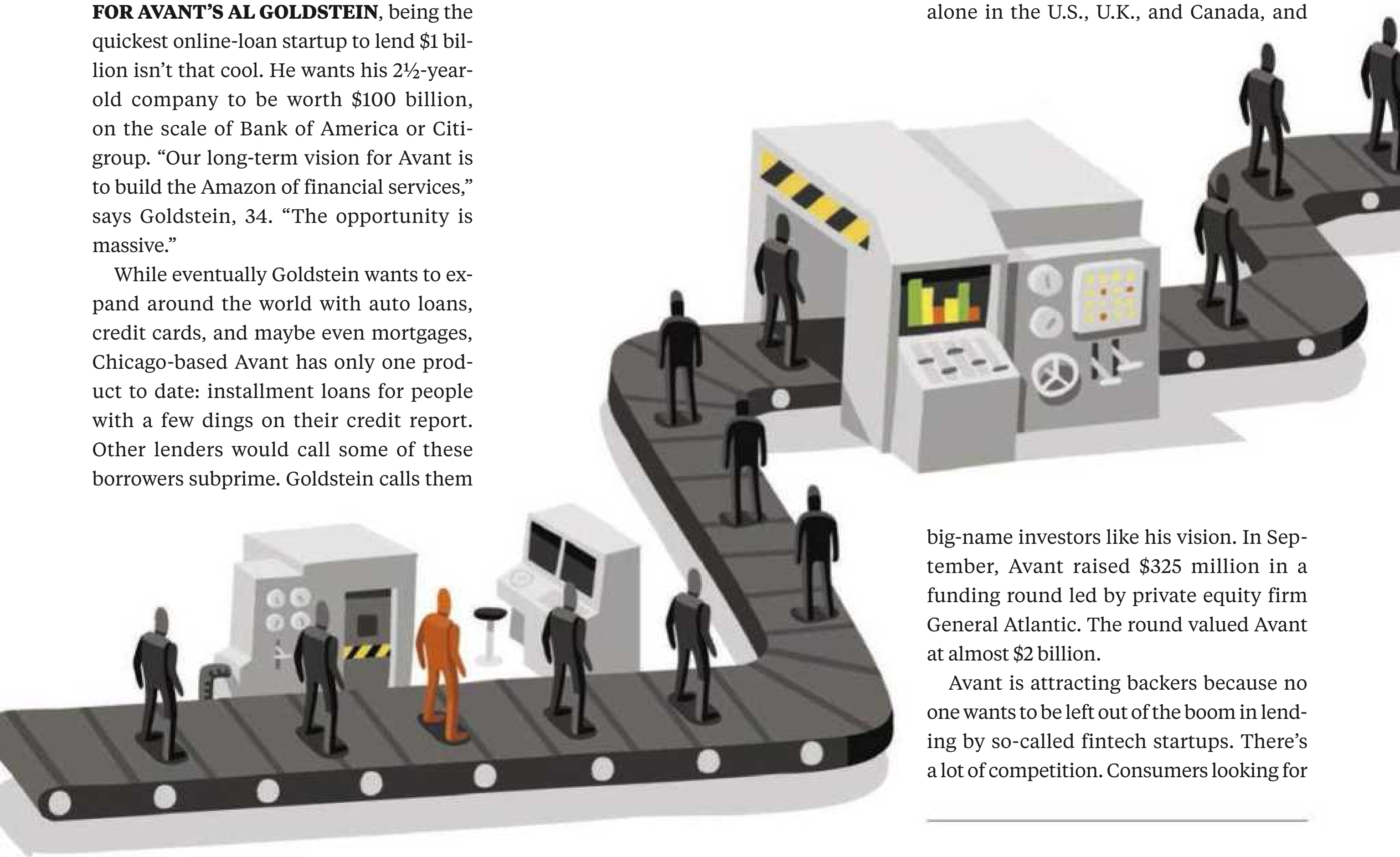
Startup Avant and its backers believe borrowers whom other lenders won't touch are good business. Will their model hold up?

FOR AVANT'S AL GOLDSTEIN, being the quickest online-loan startup to lend $1 billion isn't that cool. He wants his 2½-year-old company to be worth $100 billion, on the scale of Bank of America or Citigroup. "Our long-term vision for Avant is to build the Amazon of financial services," says Goldstein, 34. "The opportunity is massive."

While eventually Goldstein wants to expand around the world with auto loans, credit cards, and maybe even mortgages, Chicago-based Avant has only one product to date: installment loans for people with a few dings on their credit report. Other lenders would call some of these borrowers subprime. Goldstein calls them "the underbanked middle class" and says they have few options for credit. Traditional banks make it difficult for them to get $5,000 or $10,000 loans, he says. Using Avant's app, they can request money almost like they're hailing a car with Uber and have it as soon as the next day.

Goldstein's company is on pace to issue more than $1 billion in loans this year alone in the U.S., U.K., and Canada, and big-name investors like his vision. In September, Avant raised $325 million in a funding round led by private equity firm General Atlantic. The round valued Avant at almost $2 billion.

Avant is attracting backers because no one wants to be left out of the boom in lending by so-called fintech startups. There's a lot of competition. Consumers looking for



loans online have myriad options to choose from, such as LendingClub, Prosper, SoFi, Affirm, Payoff, Peerform, and even Promise, which specializes in weddings. Springleaf, the biggest brick-and-mortar subprime lender, hired a protégé of Goldstein's to start an online division. So much Wall Street money is pouring into the sector, in fact, that many operations classified as peer-to-peer lenders are now mostly funded by banks and hedge funds.

With most startups, it's easy to tell if their product is catching on. In the lending business, no one knows if they're going to make money until they see whether their customers actually pay them back. Goldstein says his firm's sophisticated algorithms identify people likely to make their payments, even when they've been rejected by another lender that relied on traditional credit scores. Of course, subprime mortgage lender Countrywide also used to tell investors that its proprietary technology would avoid foreclosures, a promise that didn't last long once the financial crisis hit. (A spokeswoman for Avant says its technology has been vetted by best-in-class, external data science consultants and multiple equity investors.)

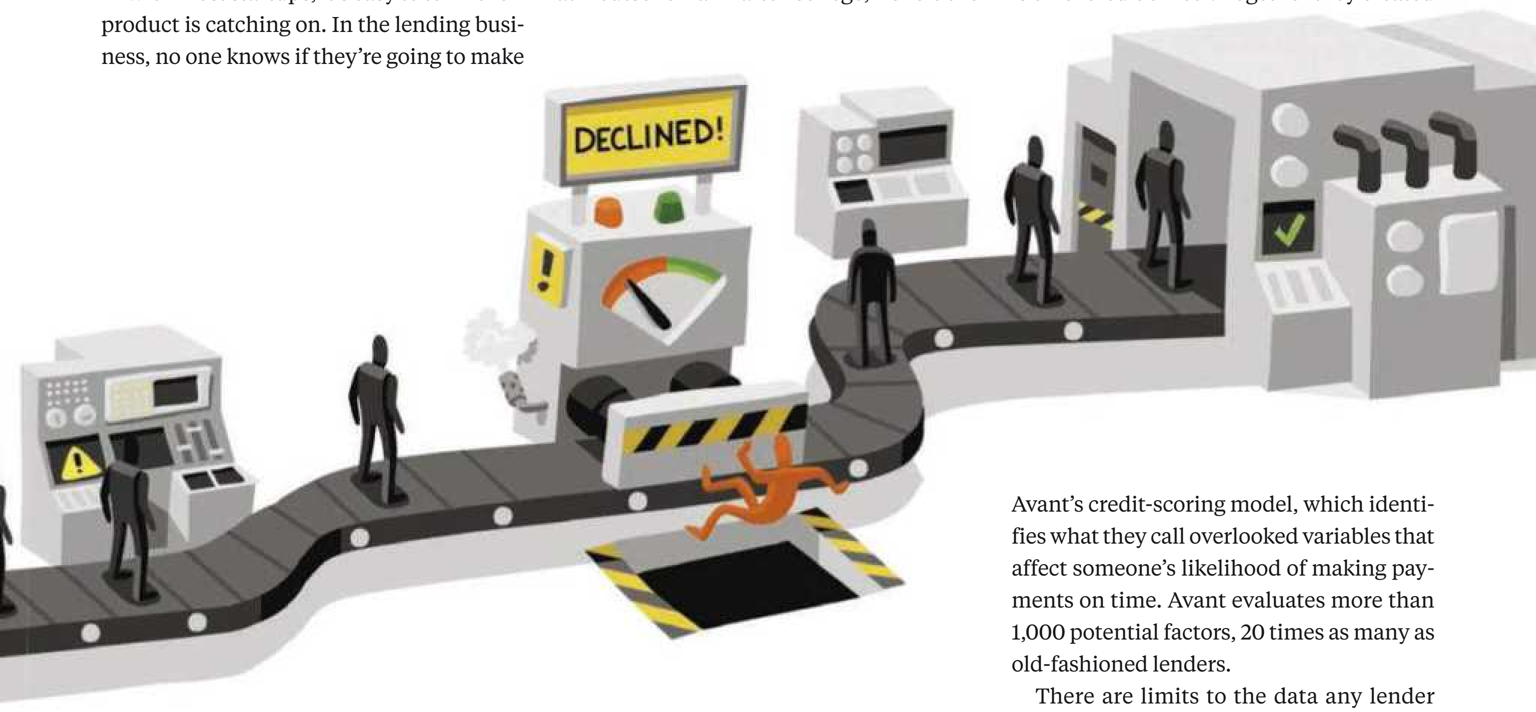
Billions of dollars are now riding on this question: Is this generation of startups different or are they handing out questionable loans in the race to expand? "They're all so new and they've been born in this very favorable credit environment," says Michael Tarkan, an analyst at Compass Point Research & Trading. "Their models haven't really been put to the test."

Goldstein, whose family immigrated to the Chicago area from Uzbekistan when he was a kid, has made good bets on risky borrowers before. Following a two-year stint at Deutsche Bank after college, he left the prestige of investment banking to open a payday-loan store called Check Giant. It's a corner of finance that banks have avoided, perhaps because regulators frown on the business model of offering two-week loans to the desperate and then squeezing them on interest rates that often exceed 400 percent annualized. Goldstein's brother built a rudimentary website for the business, and it brought in far more borrowers than the physical store did. He expanded online, calling the new site CashNetUSA. In 2006, just before his 26th birthday, Goldstein cashed in on CashNetUSA, selling it to a competitor for about $250 million.

Goldstein founded Avant with two of his CashNetUSA interns. Paul Zhang, 28, is chief technology officer, and John Sun, 30, is chief credit officer. Together they created Avant's credit-scoring model, which identifies what they call overlooked variables that affect someone's likelihood of making payments on time. Avant evaluates more than 1,000 potential factors, 20 times as many as old-fashioned lenders.

There are limits to the data any lender can use. Some information from social media, for instance, can only be used to confirm borrowers are who they say they are, because fair-lending laws restrict its use for evaluating creditworthiness. Another spokeswoman for Avant wouldn't identify any of the variables, saying only that they work together like the brush strokes in a Monet painting.

Avant says a typical borrower takes out about $8,000 and uses it to refinance other debt. That makes sense only if they're paying off payday loans, or maybe the neighborhood loan shark. Data from California regulators show that as of last year, only one in 100 Avant borrowers was paying less than 35 percent interest, which is still twice as much as the average credit card. Some



ILLUSTRATIONS BY **CHI BIRMINGHAM**

1 IN 4 STUDENT LOAN BORROWERS IN THE U.S. IS DELINQUENT OR IN DEFAULT.

Source: Consumer Financial Protection Bureau estimate

paid more than 70 percent. Goldstein says that with all the venture capital money Avant has raised, it's lowered its rates to a range of 10 percent to 36 percent.

One benefit of the lower rates: Wall Street fears the new rules being drafted by the Consumer Financial Protection Bureau may all but ban payday lending—but they won't apply to loans that charge less than 36 percent. One remaining risk, according to Compass Point's Tarkan, is that regulators might require the new players to get state licenses, which would force Avant to charge less in places with low rate caps.

A search of bankruptcy records turned up dozens of Avant borrowers who seemed far from "underbanked." Most of them listed at least 10 other loans, many had outstanding payday loans, and some had filed for bankruptcy before. Healthcare IT worker Christina Brown took out a loan from Avant this year to pay off another installment loan that was charging her about 300 percent a year in interest. "It was a lot more smooth and seamless, and the payments were lower," she says. She still wasn't able to keep up with them and filed for bankruptcy in August.

Goldstein says about 10 percent of Avant's borrowers don't pay back their loans. That's three times as high as the charge-off rate for credit cards but a small enough number that the company can still turn a profit. "That's definitely the exception, not the rule," Goldstein says. "We make loans to people who need the money, use it responsibly, and have the ability to pay it back."

ZEKE FAUX

Messing With Mary Jo

A crop of young activists say the top U.S. securities regulator is too cozy with the financial industry.

WHEN PRESIDENT BARACK Obama picked Mary Jo White to head the U.S. Securities and Exchange Commission, he pitched the former prosecutor as an enforcer who would be tough on bankers and brokers, warning Wall Street, "You don't want to mess with Mary Jo."

But a group of young activists believe she hasn't lived up to her billing. "Anybody who cares about effective rules on Wall Street kind of got burned in 2013 with the appointment of Mary Jo White," says Kurt Walters, above, a 26-year-old with a hipster beard who works for a group called Rootstrikers.

Walters's organization and others with the SEC in their sights, such as Credo Action and Democracy for America, arose from the netroots movement, marrying progressive politics and Internet tools. In place of extensive securities law expertise, Walters and his fellow campaigners have social media savvy, an e-mail list numbering in the millions, and a willingness to publicly shame figures such as White. In September, Credo hired what it called a Dump (Mary Jo) Truck, a rolling billboard with a picture of a smiling White and the tag line "Works for banks, not for you."

These groups count as one of their victories blocking the appointment of Washington attorney Keir Gumbs, who was White's favored choice earlier this year to fill a Democratic commissioner slot. The activist groups latched onto the fact that Gumbs had represented corporations that opposed some SEC rules. Rootstrikers put up a website that generated some 1,600 calls to the White House and SEC. A spokeswoman for White, below, declined to comment.

In slapping down a nominee, Rootstrikers was taking a cue from Senator Elizabeth Warren, whose tactics

have inspired the movement. Warren helped scuttle the appointment of ex-Lazard banker Antonio Weiss to a top Treasury Department post, criticizing work he did on tax-inversion deals.

The focus on nominees has some securities lawyers and former SEC officials saying activists' attacks are shortsighted and could result in agency appointees with less knowledge of the markets. "How can it be that experience in the industry you are going to regulate disqualifies you?" asks Norm Champ, a former head of the SEC's investment management division. **ROBERT SCHMIDT**

FROM TOP: ANDREW HARRER/BLOOMBERG; JOSE LUIS MAGANA/REUTERS/CORBIS

China Star

Chengdu tops an economic ranking of cities, boosted by its skilled workforce and industries such as aerospace and electronics.

THE LARGE CHINESE city with the best-performing economy isn't Beijing or Shanghai or even Shenzhen, with its proximity to Hong Kong and status as the country's first special economic zone. The inland city of Chengdu, population about 14 million, gets the top spot in a ranking from the Milken Institute.

Chengdu, capital of Sichuan province, known for its pandas and spicy food, is where Intel plans to spend $1.6 billion to upgrade an assembly and testing facility. It's where Tesla Motors has opened its largest Asian sales center, and where Uber chose to launch a new global product that helps drivers serve commuters as they head into town.

Perry Wong, managing director for research at the Milken Institute and co-author of the report, says he was surprised to find Chengdu atop his list and Beijing a distant 13. Shanghai was No. 2 in the ranking, which compared 34 large Chinese cities based on a set of economic measures. Chengdu was top 10 in seven of the nine metrics used, including job growth, wage growth, foreign investment, and economic output.

What's driving Chengdu's success? Wong says it's the skill of the local workforce, central government support, and the presence of high-end industries such as aerospace and aircraft design and, more recently, electronics manufacturing.

Chengdu and nearby Chongqing, at No. 9, are the only inland cities in the list's top 10. The rest are on or near China's east coast. With growth having been driven by urbanization and by government policy favoring export industries, that's where wealth is concentrated today, the report says, but inland cities may offer some of the best potential.

YOOLIM LEE

WHAT, ME WORRY?

China sent global markets into a swoon in August after its stock market came unglued and the government devalued the yuan. But these finance pros counter the premise that more turmoil must follow. They say the economic shift from exports toward domestic consumption is making progress.

"The fears for China's economy are overplayed. On balance, I do not believe that China will have a hard landing."
Stuart Gulliver, HSBC Holdings

"The transition is definitely on its way and is going to be successful."
Mark Mobius, Franklin Templeton Investments

"All the risks have finally been priced in. China's economy is not deteriorating to a degree where you should panic."
Mikio Kumada, LGT Capital Partners

ILLUSTRATION BY **OSCAR RAMOS**

$98,000 Price paid in a Sotheby's auction on Oct. 17 for a Balthazar (which at 12 liters is a bit smaller than a Nebuchadnezzar) of 2009 Château Margaux

Image Is Almost Everything

When it comes to marketing LVMH's global Champagne brands, being affiliated with a lifestyle or a cultural touchstone matters more than taste.

THE MARKETING OF fine French wine usually involves making potential customers want to taste it. They're supposed to anticipate experiencing in the bottle what the combination of the winemaker and the vineyard's *terroir* has produced. But the biggest, *grandes marques* Champagnes, no matter how delicious, have been sold largely on image.

Take the LVMH Moët Hennessy Louis Vuitton portfolio, which now includes five historic global brands of bubbly. The company's Moët & Chandon is the glamour Champagne at the U.S. Open tennis tournament, while at the New York City Ballet, patrons sip elegant, sophisticated Ruinart. Jon Potter, executive vice president of brands at Moët Hennessy USA, insists the differences among the imaging and promotional strategies of the five international labels aren't just invented by marketers but come directly from the heritage of each estate. "We went deep into the history of each to find its DNA, its core theme," he says.

So far, the strategy is working. LVMH's Veuve Clicquot and Moët & Chandon are leading the recent growth in U.S. Champagne sales and account for 60 percent of that market.

ELIN McCOY

VEUVE CLICQUOT

With a distinctive yellow-orange label, this Champagne is the chic lifestyle brand. Madame Clicquot made her pinot noir–based blends successful in the 1800s, with Russian help. Now, the brand sponsors polo matches and sailing festivals and associates itself with fashion and stylish businesswomen.

MOËT & CHANDON

This widely available Champagne is about glitzy parties and victorious moments. Once the standard spray for Formula One winners, Moët & Chandon Imperial is now regularly uncorked during tennis matches; Roger Federer is the global brand ambassador. It's also been the official drink of the Golden Globe Awards for the past 24 years.

DOM PÉRIGNON

Even to people who can't name a Bordeaux château, "D.P." is synonymous with luxury. Once Moët & Chandon's prestige *cuvée*, it was spun off as its own brand, with a visionary "power of creation" philosophy and manifesto. D.P. makes only complex vintage Champagnes noted for their ageability. For special packaging, it turns to artists such as Jeff Koons and David Lynch.

KRUG

Owned by LVMH since 1999, Krug is the superserious bubbly of collectors and connoisseurs, the wine to pour before a three-Michelin-star meal. All its Champagnes are pushed as the ultimate prestige *cuvées*, from the Grande Cuvée 120-wine blend to its two, $1,000-plus single-vineyard wines that reflect a special *terroir*.

RUINART

Moët purchased Ruinart, the oldest Champagne house, in 1963 and redefined it as a light, elegant, all-chardonnay *blanc de blancs*—an ideal aperitif. It's the art and culture brand, the official fizz at the New York City Ballet and international art fairs like Art Basel. The connection: In 1896, André Ruinart commissioned a now-famous poster by art nouveau artist Alphonse Mucha.

ILLUSTRATIONS BY **RAMI NIEMI**

Farmers in California's Imperial Valley have a bountiful supply of irrigation water that costs next to nothing.

For Want of a Water Market

As California's drought pits urban dwellers against farmers, a price signal for scarce supplies could solve a lot of problems.

CALIFORNIA'S CITIES ARE ADAPTING to the state's worst-in-a-century drought, hitting aggressive targets for water reduction set by Governor Jerry Brown in April. The bigger challenge is to change the behavior of farmers, who consume 80 percent of the state's water and have so far been spared the same type of restrictions.

That's not because farmers are any less creative, efficient, or environmentally responsible than city dwellers. The problem is that the water used by farms in California, as in much of the Southwest, remains mostly protected from the market price signals that could allocate it most efficiently.

California has a system of sorts for transferring water from farms to cities, but it is complicated, bureaucratic, and litigious, as John Lippert explains in this issue ("The Water Barons," page 96). In the Imperial Valley, some 500 farms control the rights to 3.1 million acre-feet of water a year—one-third as much as the state's cities use. Farmers pay next to nothing for it; their access is determined by how long they've owned the land it flows past, a system that's lasted for more than a century.

In 2003, with cities demanding more water, the federal government pressured the Imperial Valley's irrigation agency to transfer some of its farmers' share to San Diego, at a price below what individual farmers could likely get today if they could sell the water directly. The money from San Diego pays for water conservation projects in the valley. Many farmers have objected; some sued the agency, a legal battle that took more than a decade and ended in failure and frustration.

The U.S. Interior Department calls the Imperial Valley's deal with San Diego a model for elsewhere in California and other states. It should aim higher. A better approach would be to charge farmers something that more accurately reflects the value of the water they use. At the same time, the government should make it easier for farmers to sell or lease their water rights, so that the opportunity cost of using it inefficiently is higher. Australia has shown that such reforms can work.

The way to see that California's increasingly scarce water is well allocated is to stop sheltering it from the laws of supply and demand.

BY THE EDITORS OF BLOOMBERG VIEW
To read more editorials, type **VIEW <Go>** on the Bloomberg Professional service or go to **BLOOMBERGVIEW.COM**.

SPENCER LOWELL

Is Your Bordeaux Collection Aging Or Just Getting Stale ?

By Hortense Bernard, Millesima USA General Manager

Bordeaux remains an essential component of any fine wine collection. With elegant reds, stunning whites, bright roses and decadent sweet wines, Bordeaux offers an amazing range of wines that develop beautifully over time.

The 2014 Vintage

Declared a "Miracle Vintage" by Nicolas Glumineau of Chateau Pichon Longueville Comtesse de Lalande, the 2014 Bordeaux vintage has been praised by critics and enthusiasts alike. A warm and early spring led to a precocious bud break, but a wet summer had everyone concerned. In September a welcomed Indian Summer arrived bringing extraordinary conditions for harvest. The result was beautifully ripe fruit and an excellent vintage.
With the 2014 Bordeaux Futures campaign drawing to a close, now is the perfect time to secure your favorites. As one of the largest buyers of Futures, Millesima offers an extraordinary range of opportunities to add to your collection including formats in any size sourced directly from the producing Chateaus and delivered directly to you in the original wooden boxes. 2014 is a perfect addition to your collection. This vintage is unique, will be approachable sooner and offers a great value in particular thanks to the Euro-Dollar exchange rate. Buying Futures guarantees provenance, ensures availability from all the best estates and provides unique access to a wide range of rare formats.

Large Formats: A Unique Offering

In addition to our 12,000 bottle large format collection, Millesima is able to offer every wine we sell En-Primeur in every size from half-bottle to Nebuchadnezzar. For the rarest of these sizes, the Chateau may only bottle what is ordered, meaning that the rare format you purchase En-Primeur might be the only one of its kind from the vintage – a custom bottling all of your own.
Beyond the rarity and grandeur of these singular bottles, large formats offer ideal aging conditions. With the smaller air-to-wine ratio in the neck of the bottle, large formats age and develop more slowly, leading to greater depth and character in the wine. Our Imperial Library offers the largest European collection of large format bottles, stored in pristine condition. Through the exclusive access to our *Pre-Arrivals Collection*, our American customers have unparalleled access to this incomparable library.

Pre-Arrivals: Unparalleled Access

With over 2,500,000 bottles aging in perfect conditions in our 19th century cellar located in the heart of Bordeaux, Millesima offers a unique portfolio of the best Bordeaux wines. Thanks to our *Pre-Arrivals program*, this selection is available on our website to our customers across America. Sourced directly from the producing estate, these bottles with guaranteed provenance have been carefully stored in their original wooden cases, having only been stored in the Millesima or Chateau cellars. Upon order they will be carefully transported to the United States. In order to preserve the quality of the wine during transport, delivery can take several months.
Whether purchased En-Primeur or selected from our impeccably cellared collection, the Millesima team of fine wine experts can help you find the perfect bottle or large format for your collection.

Want to know more?
Please contact Hortense Bernard, GM of Millesima USA LLC to be added to the 2014 Bordeaux Insider list.
info@millesima.com or 1-877-MILLUSA

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GETTING HIS HANDS

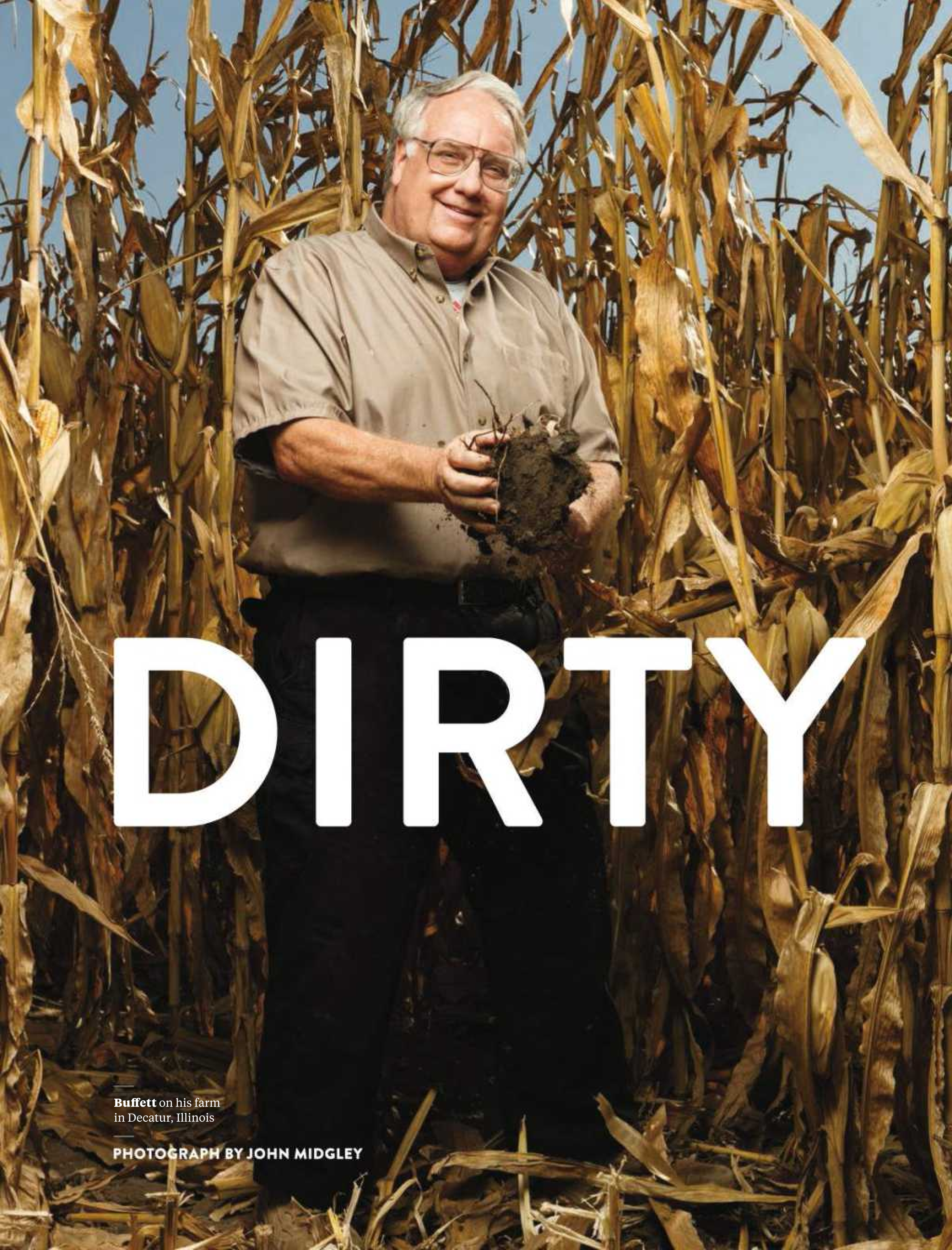
HOWARD BUFFETT, WARREN'S ELDEST SON, IS A FARMER, PHOTOGRAPHER, ENVIRONMENTALIST, AUTHOR, BUSINESSMAN, BOARD MEMBER, WORLD TRAVELER, AND VOLUNTEER DEPUTY SHERIFF. HE'S ALSO INVESTING BILLIONS TO SOLVE SOME OF THE WORLD'S BIGGEST PROBLEMS.

BY BETTY LIU

About the most out of place you'll find Howard Buffett is in Washington wearing a suit. The eldest son of Warren Buffett, CEO of Berkshire Hathaway and the world's third-richest person, Howard is far more comfortable riding in a helicopter above the Amazon, traveling deep into the jungles of Central Africa to meet with Rwandan rebels, or steering a tractor on his farm in Decatur, Illinois. But on this day in early October, he's in the nation's capital to meet with Agriculture Secretary Tom Vilsack.

Buffett, who turns 61 on Dec. 16, is a Midwestern farmer to his core—a farmer who also happens to have a philanthropic mission to end global hunger. He has the deep pockets needed to back his efforts. Over the past decade, his father and late

DIRTY



Buffett on his farm in Decatur, Illinois

PHOTOGRAPH BY JOHN MIDGLEY

mother have given Howard and his two siblings, Susie and Peter, billions in Berkshire Hathaway stock. (As of Oct. 16, Howard's share, which includes A- and B-class stock, was valued at about $4.3 billion.) The only expectation is that they use it to make the world a better place. Says Warren of his offspring: "Each brings special talents and passion to the areas of philanthropy that interest them the most. With Howie, it makes total sense for him to focus on agriculture."

To date, the Howard G. Buffett Foundation has given away $775 million to combat global hunger—efforts include teaching sustainable farming techniques and improving access to clean water—especially in the world's conflict zones. The Democratic Republic of Congo and Rwanda top his list of countries where he intends to spend a total of more than $700 million during the next decade. They're about as far away as you can get from Omaha, Nebraska, the site of Buffett's quiet, humble upbringing.

Focus doesn't come especially easy for Buffett, who admittedly cannot stand still for longer than 10 minutes. In addition to being a farmer, he's also a published photographer, an auxiliary deputy sheriff, and a board member of Coca-Cola as well as Berkshire Hathaway, where he will someday become the nonexecutive chairman. That moment serves almost as a deadline for Buffett to accomplish as much as he can, which is why he wrote his 2013 book, *40 Chances*, a title taken from the farmer adage that you have only 40 years to work the land. Likewise, he says, a person has only about 40 years to make a difference in the world. Just back from his latest trip to the DRC and Rwanda, Buffett sat down with Bloomberg's Betty Liu to talk about his always-ambitious plans.

***Bloomberg Markets*: What's the difference between charitable giving and philanthropy?**

Howard Buffett: We try to avoid charity, if we can. We think of what we do as an investment. If you look at what we're doing in Democratic Republic of the Congo, where we're building three hydroelectric plants, that's an investment. People will have electricity in their homes, businesses will be built, and farmers will thrive. That's what our approach accomplishes.

Why avoid charity?

Charity doesn't solve a long-term problem. It addresses an immediate situation, but it won't solve anything. For me, charity comes into play when there's not a good opportunity to make an investment, but you still feel there's something you should do—you're compelled to do it. In the world's poorest places, there are limited resources, limited infrastructure, and limited governance. Together, that can create a very difficult environment. So sometimes you can't do it purely one way or the other and, instead, you end up doing both.

What distinguishes you and your foundation from other philanthropists and organizations?

Unlike the makeup of a private foundation, we don't really have donors.

PREVIOUS SPREAD: GROOMER: JENNIFER BROWN; THIS PAGE: HOWARD BUFFETT

Buffett always travels with a camera. The following images showcase his work. At right, **rangers** in Virunga National Park in the DRC

HOWARD BUFFETT

We don't have to go out and tell them how successful we are, what great work we did, or convince them that they ought to give us more money. We have one donor: my dad. We don't have to make 100 or 200 or 500 people happy, which is a huge blessing. It's the difference between being a private company and a public company.

What kind of flexibility does that provide?

We can make a lot of mistakes. We try to ask, What can we learn from doing things that other people aren't doing? We're worried about outcomes. You'll find us in places where most people won't go, and that means there's a lot of risk. But our money should be the risk capital of philanthropy. Our money should go to the first places that no one else wants to go to.

What's the biggest mistake you've made and what did you learn?

The one that's cost us the most money and took us the longest to learn, too, was to stop thinking about projects and start thinking about outcomes. I really learned this in 2005,

Girls and women in **Angola**, top; **Rwanda**, above; and **Mali**, left

Poverty in **Romania**

HOWARD BUFFETT

BLOOMBERG TIPS

Following Warren on Twitter

You can use the Twitter Search (TWTR) function to track Warren Buffett's tweets. Type **TWTR <Go>** on the Bloomberg Professional service. Enter *WARREN BUFFETT* in the field and click on the TWT_WARRENBUFFETT item in the list of matches. To set an alert that will notify you when he posts a new message, click on the Display & Edit button on the red tool bar and select Set Alert Delivery. In the Delivery Options window that appears, click on the box to the left of Deliver to Alert Catcher, then on the box to the left of Bring Catcher to Front, and finally on Close. Type **BLRT <Go>** for the Bloomberg Alert Catcher. JON ASMUNDSSON

in Angola. It was a tipping point for me. We were in these villages in the Huambo province where people were literally dying. I mean, you could pick out the kids who wouldn't be alive in a week. And I realized, in the end, even we don't have enough money to deal with it on that basis.

Which sounds incredible coming from you.

What happens is that you can help maybe 500, 1,000, 5,000 people. And that's great. But it doesn't change anything. The other thing is that you eventually go home. So I started trying to figure out what else we could do. How do you change the underlying root problems? How do you reduce malnutrition? How do you get it so that people can feed themselves? So we've evolved. We've gone from the standard NGO model and that kind of project mentality where we thought we were having an impact, to realizing that that's actually a false premise. What I'm most proud of is that we've learned to think bigger. We've learned to put more money to use more effectively, and promoting agriculture is the key.

You've traveled to about a dozen high-risk countries this year—and that's a low number for you. Why do your boots need to be on the ground?

Every time I travel, I learn something. I don't need to debate something with an academic who's never been to Rwanda. I just need to be in Rwanda more.

What did you learn on your most recent trip to Africa?

In the DRC, it's more dangerous now than it was a year ago. That's interesting because the M23 rebels have been defeated and government troops are back on the ground, yet those dynamics aren't really making anything safer. It's very complex. The last few years, we've been making four or five trips a year there, just to understand what's happening. Things can change very quickly. I've done this long enough to know I take away something different when I'm in the field, on the ground. I get a feel of the environment. What's changing? Who's in control? What are the risks? The only way you're really going to understand what you're investing in is to be there.

What do you feel can happen if you're not being so involved?

It's very easy to do harm in philanthropy, especially when you don't understand the circumstances on the ground, the culture, the unintended consequences—or have a way to deal with them. You have to be careful and remember to go by the old saying, Do no harm.

What have you learned from your father?

We don't have enough time for that. But he's the reason making investments is so much more attractive than charity. I feel like that's what he's taught me. You want things to count. You want them to have impact. And he always says to operate in your circle of confidence. We don't want to get outside into areas we don't understand. We also keep a very lean staff.

Not unlike Berkshire Hathaway?

I think I have fewer people than he has at headquarters—not that I want to argue about that with him, because I know I'll lose.

Do you ever talk with Warren before making a big investment?

Only if I'm just not 100 percent sure about something. There's nobody


Melanie Wong
Managing Director
Markets Group
BNY Mellon
THE BUCK STARTED HERE. AND IT NEVER STOPPED.
THAT'S INVESTED.
1792
First company
traded on the NYSE
1989
First worldwide
U.S. dollar money market fund
2015
Launched
Digital Pulse,
turning big data
into big insights

better to ask for advice than him. But I have learned that if you ask for his advice, you're going to have to take it. So I'm a little selective about what I ask.

What do you want to teach your son, Howard Jr., about giving?

To think about scale. You want to be able to do things in a big enough way that you'll be able to have some kind of impact. And you also want to think about how you're going to influence other people's opinions that will change an outcome. Finding good partners—folks you can have honest conversations with—is key. We invest in people, not organizations.

How do you set your priorities?

There's a lot of things we don't get involved in. You won't see us doing anything in health care. You won't see us doing anything in education, unless it relates to agriculture. The hardest thing for me is to stay focused because you meet great people, you see cool ideas, and you go, "Wow, that would be neat." And "I can afford to help that person." It's easy to get distracted.

What do you take from the business world to your foundation?

I expect people to perform. In the nonprofit world, people sometimes aren't always held to real standards. But there's also this idea that people should work for lower salaries, and, actually, that's not a very good way to approach things. We're trying to solve tough problems—as tough as any. People have been trying to solve them for a long time, and we haven't had that much success yet. If you're looking for the best talent—who's going to work the hardest, who you can call 24/7—you don't pay them less money than they can earn somewhere else. You might even pay them more!

How does your overall approach differ from, say, the Bill & Melinda Gates Foundation?

We function so differently than they do. They have a much bigger footprint. I mean, if you look at what we give away per person, we give away about three times the amount per person that they do. But then they give away a lot more money. They're just big. They also happen to have a lot of processes in place that we don't need to have.

What do you think of the Giving Pledge?

I'm not involved. Some people say it's working; others don't think it's a good idea. No one is pressured into doing anything. One of the best stories that I heard come out of the Giving Pledge is how families, for the first time, are really sitting down with other generations and talking about wealth—what they want to do with it and how they're going to do it.

Howard Buffett with his father, **Warren**, and his son, **Howard Jr.**; Buffett's foundation has provided funding in **Pakistan**, above, as well as **Nepal**, below.

Sounds like a familiar topic.

The biggest mistake you can make with wealth and kids is not communicate. If you want your kids to grow up a certain way, then you, as a parent, have to set the standard. One of the things my parents did—and this is why we have this foundation—is that they set the expectation that you have an obligation to help people who don't have what you have.

What advice do you have for people who want to give but don't have billions like you do?

That's always a tough question, but I don't think you should spread it around by doing a little bit here and there. Figure out that one thing you care about—maybe it's wildlife or malnutrition or health care or education—and then focus on that cause. Do the best homework you can do, and find that person or organization you think does a great job executing a vision. **BM**

This interview has been condensed and edited.

BUFFETT FAMILY: CARLO ALLEGRI/REUTERS/CORBIS; OTHERS: HOWARD BUFFETT

BRUNELLO CUCINELLI—WHOSE CASHMERE SWEATERS CAN SELL FOR $3,000 OR MORE—IS CRAFTING A GENTLER LIFE FOR HIS EMPLOYEES IN A MEDIEVAL ITALIAN HILL TOWN.

Brunello Cucinelli, in jacket, works with tailoring students at the School of Craftsmanship he started in Solomeo, Italy.

PHOTOGRAPHS BY JAMES MOLLISON

DESIGNER CAPITALISM

BY DEVON PENDLETON

Italian fashion magnate Brunello Cucinelli takes time out from meetings with designers of his 2016 winter collection to discuss work—and why people shouldn't exhaust themselves doing it. It's a drizzly mid-September morning in Solomeo, the 12th-century hamlet where the 62-year-old CEO has located both his home and the global headquarters of his namesake fashion house.

Atop the cypress-forested hill is a medieval castle that Cucinelli has restored for his living quarters and a school. Nearby is a library open to employees featuring Cucinelli's favorite thinkers, including Kant and Ruskin. Farther down the hill, artisans weave $3,000 cashmere sweaters from the undercoats of rare Hircus goats. He asks the 1,000-member staff

to knock off work at 5:30 and not to send business-related e-mails after that to conserve their creative energies. "People need their rest," Cucinelli says. "If I make you overwork, I have stolen your soul."

Cucinelli calls his employee-centered approach humanistic capitalism and traces it to his teenage years. He watched his father trade the family's life on a farm for more money in a factory, only to come home exhausted from a dark cement-making plant where colleagues mocked his peasant clothes. "It was very repetitive, hard work," he says. "Very often, he'd be humiliated."

Cucinelli insists on balance at his company. That includes a 90-minute respite at 1 p.m., when workers break en masse for lunch that costs a few euros in the subsidized canteen. On this Monday, they'll dine on steak, pasta, and local produce bathed in Cucinelli's own olive oil. His Brunello & Federica Cucinelli Foundation extends the philosophy to funding projects that make the world more livable. "Restoring a church or maybe restoring a hospital," he offers as examples.

For a mogul who competes with the storied houses of Gucci and Prada, Cucinelli is an upstart. Gucci was run by second-generation family members before Cucinelli was even born. He founded the company in 1978 and has built it to 1,400 employees, a presence in 60 countries, and a $1 billion market valuation. Since 2012, when Brunello Cucinelli SpA listed on the Milan stock exchange, annual net profit has jumped 52 percent to $43.9 million. Sales increased 10.4 percent to $472.8 million last year, more than double the average of 37 luxury-goods companies compiled by Bloomberg Intelligence.

The 12th-century village of **Solomeo**, where Cucinelli has revived the town center, rises on the nearest hill. **Workers**, below, check cashmere for defects in a company factory.

Fellow fashion CEO Gildo Zegna is a fan, so much so that his menswear company, Ermenegildo Zegna Group, holds a 3 percent stake. "It was natural to become an investor," Zegna says. "We admire his philanthropic and humanistic capitalism."

Analysts are less dazzled. Only one who covers the stock rates it a buy, with seven advising hold and five saying sell, Bloomberg data show. Shares have fallen by more than a third since peaking in January 2014, depriving Cucinelli of billionaire status. "The question I have on Brunello Cucinelli is whether the brand has enough unique features and underlying tangible elements to maintain its very high pricing long-term," says Luca Solca, head of luxury-goods research at Exane BNP Paribas.

Cucinelli says he's out to make money but the markup must be reasonable. His company's operating margin is 13.8 percent, lower than the average of 17 percent for its peers, according to data compiled by Bloomberg. "Would you buy a product if you knew the manufacturer made a huge, preposterous profit?" he asks. He says his prices reflect his garments' hyperlocal production,

handcraftsmanship, and sustainable sourcing from Mongolia and northern India. He pays employees about 20 percent more than the average Italian manufacturing wage. If this ethos draws customers, all the better, he says.

In Solomeo, Cucinelli saw the chance to revive a village that residents had abandoned and create the workplace his father never had. His wife, Federica, grew up in the town. He began visiting in the 1970s, after dropping out of engineering school at 21. He'd started a small company in Ellera di Corciano, near Perugia, making brightly dyed cashmere sweaters. As the company grew, he decided that when he had the money, he'd bring life back to Solomeo's *borgo*, or town center. "I wanted to be a guardian," he says. "Someone who basically spent his life in this very tiny corner of the world and embellished, restored, and built something new."

He bought the central part of the castle from its absentee owner and moved the company there in 1987. "I thought we'd all go back to appreciating life in the village and my buildings would acquire value," he says.

Today, women in gray smocks work in light-filled spaces, the antithesis of his father's dank factory. One, with glasses at the end of her nose, deftly threads cashmere fibers through a machine's metal teeth, fluffy yarn spilling onto her lap.

Cucinelli lives up the hill, surrounded by a 300-year-old frescoed church and classrooms he's built to teach young people arts from knitting to masonry. His next endeavor is plain to see from the terraces. He's tearing down six disused warehouses in the nearest valley to make way for a youth-sports stadium, vineyards, and orchards. He sold shares worth €62.9 million ($71 million) in January to fund the parks as a buffer against industrial sprawl. "We have to start to give humanity back to the outskirts," he says.

When employees leave for those outskirts at day's end, he'll likely return to his castle to restore his own creative juices. "I'm here only transiently," he says. "It's my duty to make these places more beautiful than when I found them." **BM**

From top: An **office** in the castle that Cucinelli has restored hosts board meetings; **factories** are small and light filled; **buyers** choose garments for stores in China.

BLOOMBERG TIPS

Haute Cucinelli

To compare Brunello Cucinelli's company with similar firms, you can use the Relative Valuation (RV) function. Type **BC IM <Equity> RV <Go>** on the Bloomberg Professional service. Click on the arrow to the right of Comp Source and select Bloomberg, if it isn't already selected, to use Bloomberg's curated set of peers. As of Oct. 9, Cucinelli's estimated price-earnings ratio, at 34.6, was at the high end of the range of its peer group. For research on the set of companies, click on the Analyze List button at the bottom of the screen and then on RES. For the Bloomberg Intelligence dashboard on luxury goods, type **BI LUXG <Go>**. JON ASMUNDSSON

WHAT ARE THE NEXT STEPS FOR NEW HEDGE FUNDS?

Whether they are building a team, selecting service providers or creating a marketing plan, emerging money managers need all the help they can get

After a summer that saw extreme volatility in everything from currencies to commodities, the market once again favors those active managers who adopt an absolute-return approach over passive index funds that are less equipped to limit downside risk. In times like these, when money management is at its most challenging, it is no surprise that investors turn to alternative investment vehicles, with the hedge fund industry attracting $18.2 billion in new net capital in the first quarter of 2015—its largest capital inflows in nearly a year.

This year has also seen a notable uptick in the number of new hedge funds launched, with 264 new ones joining the fold in Q1 to bring the total number of hedge funds to a record 10,149. The number of launches, however, belies a strong preference among investors to stick with large funds that have an established track record. In the first half of the year, more than 70 percent of new inflows went to hedge funds managing more than $5 billion—just 6 percent of all management firms.

That left the 82 percent of hedge fund firms managing less than $1 billion contending for a total of $6 billion worth of investments. Yet while the fundraising environment is certainly challenging, there are specific steps that new money managers can take to increase their odds of long-term success.

1 PERFECT YOUR PITCH

Many new fund managers will spend a large portion of their time attempting to raise institutional capital. When communicating with prospective investors, those who wish to be successful will need to distinguish their strategy and a rationale for its success. “Managers need to articulate a robust market opportunity and a differentiated strategy that can take advantage of that opportunity for an extended period of time,” says Thomas Kreitler, Head of the Hedge Fund/Public Market Strategies Fundraising Team at Eaton Partners, the world’s leading independent global fund placement agent.

Eaton Partners has helped raise more than $68 billion of institutional capital across a variety of funds, including hedge funds, private equity and real estate. While Eaton Partners works with hedge funds of all sizes, the firm has particular expertise in funds with current AUM of $100 million to $500 million, but have capacity to effectively manage $1 billion or more.

New managers typically get less than an hour in a first meeting with a potential investor to give a quality presentation and make an impression that will inspire the investor to do more work on the fund. Given such time constraints, it is essential that the manager articulate a clear, concise message that is tailored to the specific investor’s needs. “If you’re talking to a nontaxable investor like a pension fund, for example, you shouldn’t be focusing on your tax efficiency,” Kreitler says.

Another rookie mistake many managers make is to spend a lot of time getting into the specific details of their individual portfolio positions, rather than focusing their pitch on the big picture. New managers should provide investors with a simple overview that includes the firm’s background, the history and track record of key individuals, the market opportunity the fund is pursuing and why the team has a clear edge in their investment strategy. Simply put: A successful pitch will explain to investors what the firm is doing that is differentiated, and why it’s worthy of receiving capital.

Investors want to see a team with experience at highly successful, well-regarded firms. They also prefer that managers have some “skin in the game,” with a significant amount of their net worth invested in the fund itself, rather than in a side vehicle.

Presenters should be able to speak candidly about their fund’s biggest positions and where its largest risks lie. They should also be well versed in their returns, down to at least a monthly level, so that they can respond to the most specific questions an investor might ask. Not knowing the answer to a question—or worse, being evasive—can quickly turn an investor off to a fund.

Another key factor in raising capital is simply the ability to connect with potential investors. “Sometimes we meet managers who check most of the boxes, but don’t provide the candor that institutional investors demand,” Kreitler notes. “Investors need to feel like they can develop a rapport and a relationship with their managers.”

Today’s institutional investors aren’t looking solely for a money manager; they also want a trusted partner—one who can provide information about a particular sector, which can then be used as part of a decision-making strategy. Often times, strong returns alone will not be enough to compel investors; managers must demonstrate a willingness to share insights and be a reliable thought-partner.

2 EMPHASIZE YOUR CONTROLS

Another important area for new managers to focus on is implementing the appropriate controls, right from the launch, in order to ensure compliance and prevent fraud. Having appropriate controls, and being able to clearly articulate them, is also key to attracting investors, says Peter Sanchez, CEO of Northern Trust Hedge Fund Services, a full-service fund administrator that provides comprehensive middle-office and fund administration services, as well as independent review and validation of fund results.

Emerging managers should start by lining up key service providers—such as outside counsel, an audit firm, a prime broker and an administrator—and work with them to set up a control system with multiple checkpoints. "It's common for managers to underestimate the costs," says Sanchez, who points out that some new managers are unaware of the amount of work, effort and infrastructure required to develop an operational control environment and the capabilities to support regulatory requirements and compliance.

The best funds have a manager who has committed to investing in top-tier operational infrastructure and data management, where both the manager and top executives understand all the controls of the fund. "Successful funds spend a lot of time on their strategic infrastructure, and are prepared to speak about it in a transparent way to investors and to consultants that are hired to perform evaluations of the operations of the fund," Sanchez says.

One of the most important responsibilities for a new manager is keeping track of operating expenses and budgets, as well as their incoming and outgoing flows. Controls include cash controls, meaning a multilevel approval process for money sent out of accounts; valuation controls, which include independently verifying pricing of assets; and reconciliations for net asset value (NAV) calculations. Funds also need typical middle-office controls around reconciliations and trade affirmations for positions, cash and transactions.

The expense of implementing such practices pays off. According to a survey recently conducted by Northern Trust, 91 percent of investors say independent checks on portfolio risk calculations are important, but only 13 percent of fund managers utilize third-party risk oversight. That same study found that 67 percent of investors feel independent verification of cash processing is important to them, while just 44 percent of fund managers report they employ such controls.

Today's investors need to see those controls in order to mitigate the risk to their money. They're looking for funds where both the manager and top executives have an understanding of all controls and can explain them in a way that will deliver returns over the long term.

Emerging funds often outsource many of their controls; it's more cost-efficient, and their structures may not be as complicated as those of a billion-dollar fund.

THIS YEAR HAS SEEN A NOTABLE UPTICK IN THE NUMBER OF NEW HEDGE FUNDS LAUNCHED

264

NEW FUNDS 1Q 2015

10,149

TOTAL FUNDS

$18.2 B

NEW NET CAPITAL

But as they grow, investors may want to see a plan to take some controls—such as FX currency exposure or cash optimization—in-house to produce better results. They also want to see a long-term plan for technology and technology infrastructure. "Investors are looking for knowledge and a strategic understanding of where the fund is going, from both an operational and infrastructure perspective," Sanchez says. "That is key."

3 BE AS TRANSPARENT AS POSSIBLE

Given new compliance regulations and the focus on controls, it's important to be as transparent as possible with potential investors. That approach makes investors feel more comfortable; and, given the current emphasis on due diligence, investors will likely uncover anything about which a fund manager isn't completely forthcoming.

That's the reality of living in a digital, data-driven world, says Sam Hocking, founder and CEO of AltX, which aims to use science and technology to improve investor decision-making and connect potential investors with hedge funds. "Access to data is becoming easier, but the true challenge is deciphering that data. Dealing with unstructured data can be a big challenge as the number of disparate data sets continues to grow, so AltX helps financial firms face the digital revolution head-on."

Hocking's firm collects and distributes an array of data on funds and their managers, including everything from financial returns and behavioral finance to political contributions and news coverage. AltX also matches managers' behavior preferences to their financial returns; for example, it uses a mathematical model that categorizes funds ("growth-oriented"; "steady") so potential investors can use that insight to make decisions about where to put their money.

While much of that information has been available offline for anyone who wants to find it, it's now much more accessible. "AltX allows investors the agility to make decisions both smarter and faster, and have a more holistic understanding of the funds," Hocking says.

Clients of AltX include not only investors, but also advisors, prime brokers, fixed income and equity sales teams, hedge funds, pension funds and endowments. One of the most popular features of AltX's platform is its ability to map the network of a fund's key players.

Founders' networks are among the most important factors considered by investors. "If you talk to any large investor, they are interested in using both novel—behavorial, news, relational—as well as traditional—performance, regulatory—data to come to the best investment decisions," Hocking says. "Investors have considered all of these components separately in their decision-making in the past. We've been able to digitalize all of those considerations to create a scalable technology platform. They want to see what and who, and how they can better understand the people before investing with them."

In order to build its network tool, AltX worked with experts in relationship mapping at Harvard to create an engine that looks at schools, jobs, friends and political contributions to create a map that's

focused on business contacts within a specific space. The site adds about 5,000 people every 20 days.

Since all firms in today's market have a digital footprint, AltX has been able to offer additional data points to investors to give them a better understanding of funds. That's good news for startups, which historically have had a lot of trouble attracting capital, especially if they're not spinning off from a name-brand fund.

Now that regulations require all managers to file a Form D, AltX is able to capture data on all new funds. "A lot of people don't know the new startups that are not coming from a large fund," Hocking says. "But our clients can see anybody that files a Form D. This allows new funds a lot more notoriety, offers a lot more transparency about the fund and its founders and, ultimately, greater visibility and opportunity to be seen by investors."

4 ACT LIKE AN ENTREPRENEUR

Most successful new funds are started by managers with an impeccable pedigree and a clear investing strategy. They also need something else: an entrepreneurial spirit and an understanding of how to build a business. But these latter skills may not be inherent to many new managers who have cut their teeth at large financial institutions. It's with this in mind that the need for advisory in the area of business planning is becoming increasingly important for success.

Omeed Malik, Head of the Emerging Manager Program at Bank of America Merrill Lynch, likens launching a hedge fund to opening a restaurant: On the surface, both offer the promise of being lucrative, but both also come with a likelihood of failure.

"A great chef might create an appealing menu, but to create a successful restaurant you need the business acumen to build a strong operational platform and the marketing to build a viable business," Malik says. "While the aspiring hedge fund manager may be proficient in investing, they too need a solid plan and strong business fundamentals—and these skills don't necessarily come hand in hand."

Preparing to Launch

With increasing fund competition and growing regulatory complexity, programs like Bank of America's Emerging Manager Program are becoming even more valuable in helping new hedge funds to build a business that is both compliant and institutional, and can stand up to a potential investor's operational due diligence.

This program also gives new managers ongoing access to institutional research, corporate access, syndicate and global equities trading capabilities to aid the process.

"When you consider that most new managers have come from large institutions that are backed by the best technology, legal teams and experts, it is little wonder that they are likely to find it challenging when they branch out," Malik says. "Our role is to plug the gaps and help them lay the foundations for success."

MOST SUCCESSFUL NEW FUNDS ARE STARTED BY MANAGERS WITH AN IMPECCABLE PEDIGREE AND A CLEAR INVESTING STRATEGY. THEY ALSO NEED SOMETHING ELSE: AN ENTREPRENEURIAL SPIRIT.

Spin-off, Not Start-up

Typically, investors tend to look for a firm led by partners who already have a strong investing track record. Conveying past achievements, along with the team's recent successes and continuity, can be critical elements when launching a new fund.

"Unlike many new businesses, the aim is to position the new fund as a spin-off rather than a start-up," Malik explains. "Investors look for people who already have a good reputation, but they also want to know that a fund will operate effectively, so demonstrating an appropriate structure is important to mitigate business risk."

Aside from performance, the number-one reason why a new fund is likely to fail is cultural. In some cases, a solution is making key employees partners so that they're truly invested in the firm as owners.

A strong company culture is delivered from the top down, making hiring decisions for high-level positions critical. New managers need to look for people who not only fit the company's ethos, but can also understand the intricacies it takes to run the business effectively.

Investors want to be sure that fund managers have put serious thought into their technology and risk management platforms. With the amounts of capital that hedge funds are managing, they also need to ensure their systems are safe, secure and compliant. Cybersecurity is a top priority.

Ensuring appropriate resourcing is a challenge for new managers who don't have an in-depth understanding of the operational expertise of positions they are filling—particularly specialized positions such as cyber security experts, IT managers, legal counsel and even marketers.

"We have a team of highly experienced professional consultants who were formerly practitioners in a variety of fields and can help new managers ensure they've got the right team," says Malik. "As part of our program, we typically run candidates through a mock due diligence exam with former asset allocators to ensure they can sell the investment story to potential investors."

A Long-term View

Putting money into funds that are relatively untested can be a gamble, but there are ways that managers can demonstrate their long-term view. For example, many new managers want to name their company after themselves, but that may send the wrong signal to investors that the business may not be an ongoing concern if they were to stop.

"We help managers to position their business in the best possible way to instill confidence," Malik says. "It can be as simple as helping them articulate their story, to getting into the weeds regarding the best practices in the areas of governance, compliance and technology."

The opportunity to create a well-performing hedge fund is enticing, particularly when one considers that some experts predict the sector is likely to increase by a quarter of a trillion dollars by the summer of 2016. And while success is not guaranteed, with the right advice, planning and ongoing support, hedge funds still offer managers the unique opportunity to run a financially rewarding, dynamic business where the sky is the limit.

— *Beth Braverman*

HOW THE RICH MIND THEIR MONEY

BY ANTHONY EFFINGER AND MARGARET COLLINS

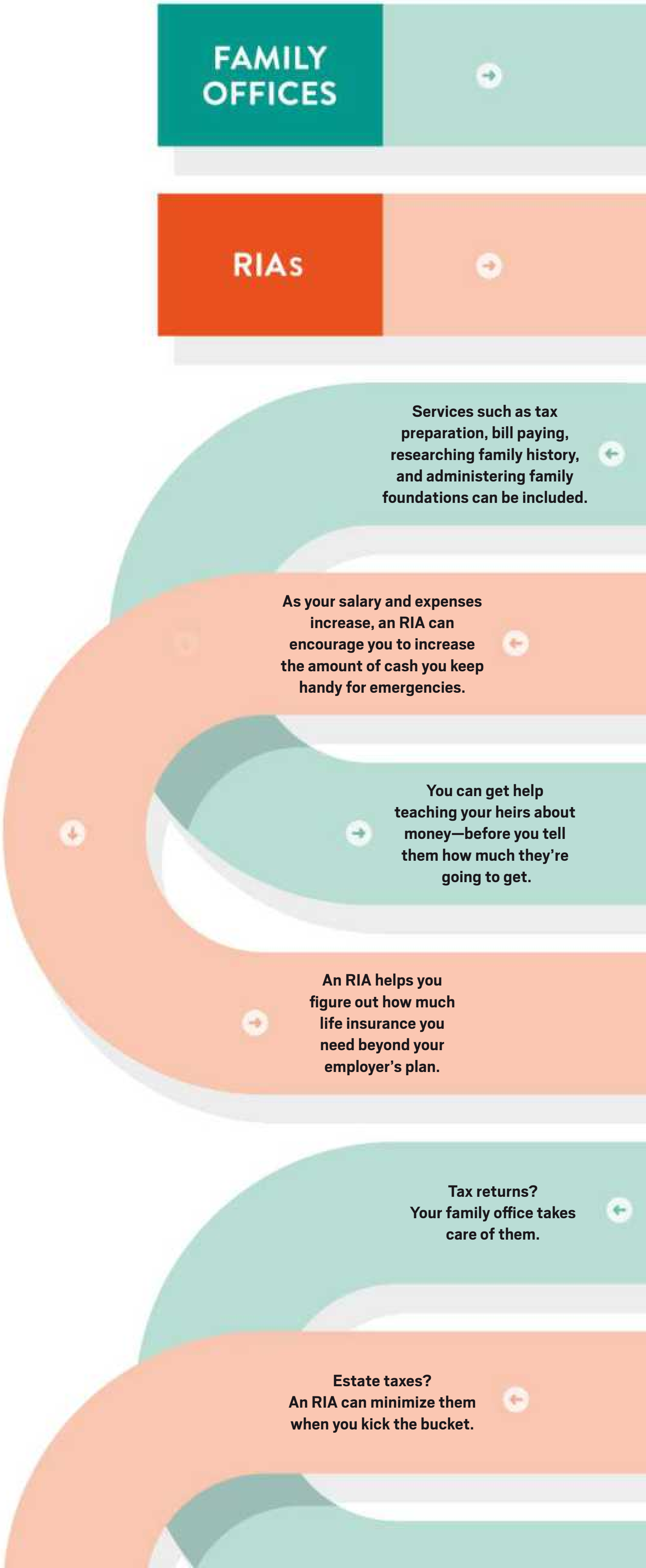
When your mind is on your money, the saying goes, your money is on your mind. So it follows that when your mind is too much on your money, you aren't being productive and enjoying life—which is why savvy rich people often let someone else take care of it for them. Here's how they decide exactly what kind of help they need.

For the well-off, a registered investment adviser is usually the answer. Their ranks have grown as baby boomers have retired and amid concern that the traditional guardians of wealth—banks and brokerages—push homegrown funds in a search for fees. According to research firm Aite Group, assets managed by RIAs increased 15 percent, to $2.7 trillion, from 2013 to 2014.

For the ultrarich, a family office will "holistically manage wealth and chaos," says Richard Wilson, CEO of the Miami Family Office. That means tending to everything from clients' monthly bills to their hefty tax obligations. A multifamily office, or MFO, serves more than one family, whereas a single-family office, or SFO, focuses on just one; globally, there are probably 20,000 MFOs and SFOs, according to Wilson.

In the U.S., RIAs and MFOs must register with the Securities and Exchange Commission, whereas SFOs do not have to but must abide by rules strictly defining them. In fact, telling the difference between an MFO and an RIA can be tough, and no formal definition exists; indeed, most MFOs are RIAs. And because family offices have more cachet in this new Gilded Age, many RIAs are expanding their repertoires and calling themselves family offices.

We've chosen to use a definition of family office that we've observed across the industry: providing comprehensive financial services—from wealth preservation to bill paying—along with a strong complement of nonfinancial services.



MFOs typically require minimums of around $25 million in investable assets. (Alas, your house doesn't count.)

You should have at least $100 million in assets before setting up an SFO because you'll need to pay your own staff.

There are some 11,500 RIAs to choose from. The fee is around 1 percent of your assets a year.

Common investment vehicles include mutual funds, ETFs, 529s, and maybe some individual municipal bond or stock picks.

An MFO can pool clients' money to, say, invest in a deal to build a hotel or fund a business.

MFOs and SFOs can gain access to top private equity firms and hedge funds. You may even see deals for investments in startups.

You'll still need your own accountant; RIAs usually monitor investments only for tax efficiency, not reporting.

Most RIAs frown on your cashing out when the market dives and, instead, encourage you to buy what's gotten cheap.

GRATs, CRATs, CRUTs, and other strange-sounding trusts, created on your behalf, can help you pass shares of the family business to children, grandchildren, and great-grandchildren.

Concierge services will make you feel like you're living the high life: personal shopping, doctor referrals—you name it.

As you age, an RIA trims your exposure to riskier assets and focuses on others that pay income, such as bonds.

As you reach retirement, an RIA can help you ponder a move to a state where income is tax-free. Hello, Nevada!

If you're concerned about safety, your family office will coordinate security measures to protect your family and riches.

Want a vacation home in Europe? A horse stable in Florida? You'll have guidance as you consider your options.

An RIA will also help you decide how much to leave your kids and grandkids.

An RIA makes sure that you take your IRA distributions on time, delay your Social Security benefits for maximum payouts, and don't outspend your 401(k) savings.

FAMILY FRENZY

BY ANTHONY EFFINGER

Walk around the headquarters of Silvercrest Asset Management Group, and you'll feel like a little piece of Thomas Jefferson's Monticello landed atop a New York skyscraper. Antique maps of Virginia decorate the four-floor office suite on Sixth Avenue, as do paintings of bird dogs on the hunt. A portrait of Archibald Stuart, a pal of the third U.S. president and an ancestor of late Silvercrest co-founder G. Moffett Cochran V, looms over the lobby.

The decor suggests stability and longevity, two things wealthy families look for in a money manager. After all, people hire family offices not to get rich, but to stay that way, with smart investments and savvy tax advice. "We're trying to build a business that will last a very long time," says CEO Richard Hough III, whose team, in addition to the core job of managing money, does everything from preparing taxes and running payroll for household personnel to consulting on art acquisitions and booking yachts. There's no minimum net worth for clients, but Silvercrest likes to work with families that have at least $20 million.

Demand is good. Silvercrest has seen new assets—not from acquisitions or market appreciation—grow for eight straight quarters. That's a challenge in an industry where someone may want cash at any time to, say, buy an island. "It's a very lumpy business," Hough says.

Amid that streak, Silvercrest became the second-fastest-growing firm, as measured by year-over-year increase in assets under advisement, in *Bloomberg Markets*' annual ranking of the richest family offices. (The ranking includes only multifamily offices; single-family offices keep lower profiles and are exceedingly difficult to evaluate.) CV Advisors, a Miami firm less than one-third the size of Silvercrest in terms of assets, has topped the list of the fastest growing for three years in a row. CV grew 32 percent to $4.6 billion in the 12 months ended in the first quarter of 2015, while Silvercrest's family office assets grew 21 percent to $15.7 billion. Altogether, Silvercrest manages $19 billion for almost 500 wealthy clans and, more recently, 56 institutions, including the California State Teachers' Retirement System, which allocated $150 million to Silvercrest in 2012.

AS A FAMILY OFFICE WITH SHARES THAT TRADE ON PUBLIC MARKETS, SILVERCREST HAS TO KEEP BOTH CLIENTS AND INVESTORS HAPPY.

Silvercrest is an unusual firm. It's the only multifamily office in the *Bloomberg Markets* ranking that is publicly traded. It's also one of the few that manage money in-house, picking specific stocks and bonds, in addition to shipping money out to the hedge funds that other family offices rely on to a greater degree.

Silvercrest offers clients six equity portfolios and three fixed-income ones. One of the best is its Small Cap Value Composite, a stock portfolio that, through June 30, returned 11.4 percent a year—before some fees—since its inception on April 1, 2002, compared with 8.2 percent for the Russell 2000 Value Index and 6.6 percent for the Standard & Poor's 500 Index.

As a public company, Silvercrest must disclose things that other firms keep secret, such as the fees it charges. Some of the highest fees come from stock portfolios it manages in-house: 1 percent of total assets for the first $10 million of a client's money and 0.6 percent on any amount beyond that, according to filings with the U.S. Securities and Exchange Commission. For a mere 0.01 percent of total assets, Silvercrest will keep an eye on funds held in another investment company's

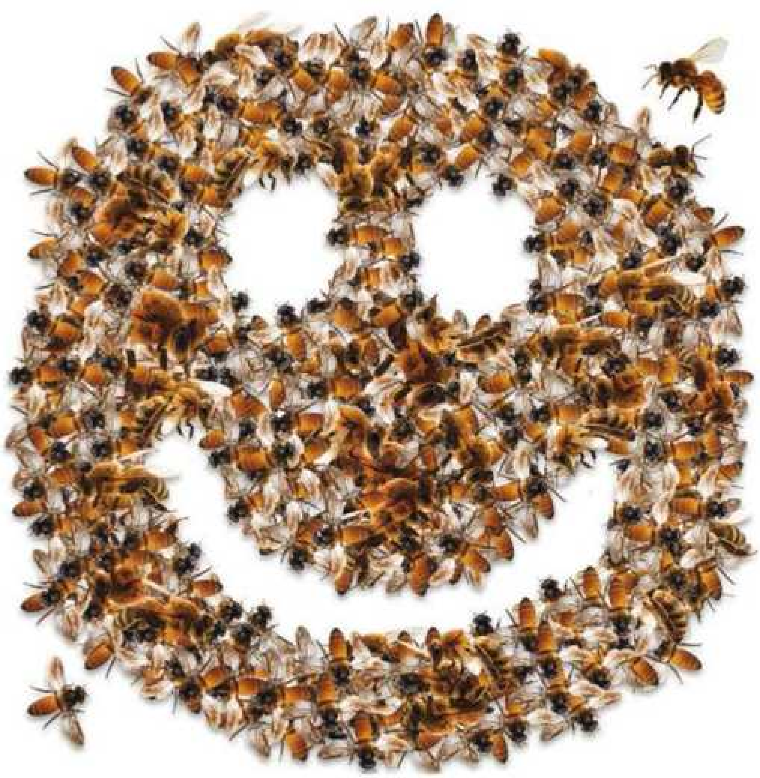


PHOTO ILLUSTRATION BY LINCOLN AGNEW

hedge fund or private equity pool. (Of course, those other investment companies charge fees as well.) Filings show that Silvercrest got 95.6 percent of its $36 million in revenue in the first half of 2015 from minding money.

Just 4.4 percent came from the posh services that distinguish Silvercrest from regular money managers. But that small slice is key, says Steven Schwartz, an analyst at Raymond James Financial, which helped Silvercrest go public. Silvercrest has retained an annual average of 98 percent of its clients since the end of 2006, Hough says, in part because people like the perks. "They aren't making any money on family office services," Schwartz says, "but they pay for themselves. That's the part of the business that makes the assets so sticky." He rates the stock outperform.

Keeping assets is easier than getting them, Hough says, because there are so many private bankers and investment advisers hunting for wealthy clients. Most won't invest without a personal recommendation, and those can be serendipitous. "This is a referral business," Hough says, "and it's one of the most competitive ones you can be in."

As a public company, Silvercrest faces extra pressure to gather assets. Sometimes—like now—even eight quarters of gains aren't enough to attract investors. Since peaking at $18.51 on June 10, 2014, the shares had fallen 41 percent to $10.94 as of Oct. 8. A graph showing the share price from the initial public offering in June 2013 to October is shaped like the blue, peaked chevron in the Silvercrest logo: up steadily, then down. Schwartz says investors are worried that a declining stock market will shrink client portfolios—and Silvercrest's fees.

Silvercrest was founded in 2002 by Cochran, Martin Jaffe, and a group of their co-workers from the asset management unit of Donaldson, Lufkin & Jenrette. They hoped to distinguish their firm by offering high-quality in-house money management and access to outside funds. On top of that, they added white-glove services of all kinds—bill paying, partnership accounting, and other odd jobs the wealthy like to outsource and forget.

THE RICHEST FAMILY OFFICES

	Firm	*Main Office(s)*	AUA, in Billions[1]	YOY % Change	Number of Families[2]	
1	**HSBC Private Bank**	*Hong Kong, London*	$160.0	11	334	
2	**Citi Private Bank**	*New York*	107.3	7	NA	
3	**Northern Trust**	*Chicago*	106.1	7	4,678	
4	**Bessemer Trust**	*New York*	105.0	9	>2,300	
5	**BNY Mellon Wealth Management**	*New York*	86.5	6	430	
6	**UBS Global Family Office Group**	*Zurich, London, Singapore, Hong Kong, New York*	78.2	10	250	
7	**Cambridge Associates**	*Boston*	61.9	13	200	9 (TIE)
8	**Pictet**	*Geneva*	57.0	4	>150	
9	**Stonehage Fleming Family & Partners**	*London*	43.0	NA	>250	
10	**CTC | myCFO** (BMO Financial Group)	*Chicago*	42.0	4	340	
11	**Abbot Downing** (a Wells Fargo business)	*Minneapolis*	38.6[3]	2	619	
12	**U.S. Trust Family Office** (Bank of America)	*New York*	37.1	5	281	
13	**Hawthorn** (PNC Financial)	*Philadelphia*	31.7[3]	7	707	
14	**Atlantic Trust** (CIBC)	*Atlanta*	28.1	11	2,299	
15	**Wilmington Trust** (M&T Bank)	*Wilmington, Delaware*	27.8[3]	2	549	
16	**Glenmede**	*Philadelphia*	25.7	5	257	
17	**Fiduciary Trust** (Franklin Templeton Investments)	*New York*	17.0	7	1,437	
18	**Silvercrest Asset Management Group**	*New York*	15.7	21	483	2
19	**Oxford Financial Group**	*Indianapolis*	13.7	5	319	
◊	**Veritable**	*Newtown Square, Pennsylvania*	13.7	5	210	
21	**GenSpring Family Offices** (affiliate of SunTrust Banks)	*Jupiter, Florida*	12.7	-7	315	
22	**Commerce Family Office** (Commerce Trust)	*St. Louis*	12.2[3]	7	109	
23	**Whittier Trust**	*South Pasadena, California*	10.6	6	325	
24	**Tiedemann Wealth Management**	*New York*	9.3	12	125	
25	**Bedrock**	*Geneva*	9.0	13	98	9 (TIE)
26	**BBR Partners**	*New York*	8.8	20	98	3
27	**Atag Private & Corporate Services**	*Basel, Switzerland*	8.6	2	54	
28	**TAG Associates**	*New York*	8.4	0	110	
29	**Ascent Private Capital Management** (U.S. Bancorp)	*San Francisco*	7.5	15	90	5
30	**Baker Street Advisors** (AMG Wealth Partners)	*San Francisco*	7.0	14	57	6 (TIE)
◊	**myCIO Wealth Partners**	*Philadelphia*	7.0	9	510	

KEY
Firms with greatest year-over-year growth
Rank according to YOY growth

[1]Assets under advisement as of March 31 or most recent available.
[2]The majority of family relationships are multigenerational.
[3]Includes transfers from within the bank.
NA = not available.
Source: Bloomberg

They sought to keep some of DLJ's style, too. Much of the furniture, and even the carpet, came from the firm, at nice prices, after 2000, when DLJ disappeared inside Credit Suisse Group in a takeover.

Later, Silvercrest caught the eye of Microsoft co-founder Paul Allen, owner of one of the world's biggest single-family offices, Vulcan Inc. Vulcan took a 38 percent stake in Silvercrest in mid-2007.

Global finance collapsed in 2008, and the fortunes held by wealthy families shriveled along with it. Worse yet for Silvercrest, Cochran had learned that cancer originating in his pancreas had moved to his liver. He kept it at bay with experimental treatments and remained CEO. The Silvercrest team worked hard to keep investors from dumping everything at fire-sale prices during the crash. Managers stopped making calls for new business and devoted all of their time to calming their existing clients.

By 2013, markets had stabilized enough for Silvercrest to sell shares to the public. Why make that move when none of your competitors has? The biggest reason, says Hough, is to solve a compensation problem. Money managers like Cochran and Jaffe bolt from big banks and start boutiques so they can own the store, not just work there. But when partners leave the business, they expect to cash out. Going public allowed Silvercrest to use something other than its valuable cash flow to buy partners' shares—and one of Silvercrest's biggest investors, Vulcan, was ready to cash out. So, on June 27, 2013, the firm sold 4.8 million shares at $11 each.

Sadly, another entity had a sudden reason to sell. Cochran, who had fought his cancer for 10 years, died in November 2013. His estate sold 900,000 shares into the market soon after; it still owns about a million shares, worth $11 million. Hough took over as CEO after Cochran died. Jaffe remains a senior adviser to the firm and the third-largest shareholder.

Despite the stock's slump, an IPO was the right move, Hough says. It helped Silvercrest stay independent, something that was important to Cochran. "It was his dream to build an enduring firm," he says. BM

THE RICHEST FAMILY OFFICES

KEY: Firms with greatest year-over-year growth; Rank according to YOY growth

	Firm	Main Office(s)	AUA, in Billions[1]	YOY % Change	Number of Families[2]	Rank according to YOY growth
32	**1875 Finance**	*Geneva*	$5.8	5	15	
33	**Spudy & Co. Family Office**	*Hamburg*	5.5	5	104	
34	**Laird Norton Wealth Management**	*Seattle*	5.1	1	437	
35	**Athena Capital Advisors**	*Lincoln, Massachusetts*	5.0	17	30	4
36	**Synovus Family Asset Management** (Synovus Bank)	*Columbus, Georgia*	4.9	9	47	
37	**Clarfeld Financial Advisors**	*Tarrytown, New York*	4.6	4	250	
◊	**CV Advisors**	*Miami*	4.6	32	55	1
◊	**Sandaire Investment Office**	*London*	4.6	14	33	6 (TIE)
40	**Presidio Group**	*San Francisco*	4.4	0	138	
◊	**St. Louis Trust**	*St. Louis*	4.4	10	37	
◊	**Tolleson Wealth Management**	*Dallas*	4.4	14	NA	6 (TIE)
43	**Monitor Capital Partners**	*Antwerp, Belgium*	4.2	6	82	
◊	**Northside Capital Management**	*Hood River, Oregon*	4.2	-4	27	
45	**Ballentine Partners**	*Waltham, Massachusetts*	4.0	9	77	
◊	**Seven Post Investment Office**	*San Francisco*	4.0	7	40	
47	**Federal Street Advisors**	*Boston*	3.9	-1	29	
◊	**Gresham Partners**	*Chicago*	3.9	5	74	
49	**Geller Family Office Services**	*New York*	3.7	13	55	9 (TIE)
50	**Rinet**	*Boston*	3.5	4	163	

[1]Assets under advisement as of March 31 or most recent available. [2]The majority of family relationships are multigenerational. NA = not available. Source: Bloomberg

HOW WE CRUNCHED THE NUMBERS

Our ranking is based on data compiled by Bloomberg from information self-reported by multifamily offices. The list was assembled through research by the Bloomberg Rankings team via a survey of more than 1,000 firms worldwide, using a database of contacts obtained from Key Biscayne, Florida–based FamilyOffices.com. We received responses from 98 firms.

We requested data as of the end of the first quarter of 2015; some data is for year-end 2014. Change in year-over-year assets under advisement was calculated using the data supplied by the firms. Single-family offices are excluded. Family offices that are part of private banks are included if the bank has a unit that offers direct and comprehensive investment and noninvestment services to high-net-worth families.

Figures for AUA include only assets managed by the family office unit of the bank. For nonbank family offices, AUA includes wealth directly managed by the offices and funds outsourced to money management firms. Money managed for private foundations is included. Money managed for pension funds is excluded. Insurance policies and trusts on which advice is provided are included.

The ranked firms provide both investment and noninvestment services. The latter may include family meetings, financial education, art consulting, estate planning, family governance, foundation management, business consulting, property management, travel arrangement, and shopping assistance.

Bloomberg Rankings
rankings@bloomberg.net

AT YOUR SERVICE

WHAT HAVEN'T THESE FAMILY-OFFICE FIXERS DONE? NOT MUCH.

Family offices that serve more than one clan are in a competitive business, with hundreds of firms hunting one-percenters and their cash. A big part of their pitch is concierge service, and, in this new Gilded Age, that means much more than getting a table at Vaucluse or good tickets to *Hamilton*. Often, the task is so tough or time-consuming that minders hire specialists such as Kathy Reilly, the Harvard MBA who runs Lifestylist Advisory, or Kimberley Clark, a former Citigroup banker who co-founded Luxe d'Europa. They've done all but two things on this list. Which ones didn't they do? A.E.

1 Tracked down a financier's assets as he was dying of cancer and losing his memory.

2 Found an agency that handled actors and farm animals for a real-life nativity scene at Christmas.

3 Scored last-minute tickets to the 2010 Winter Olympics in Vancouver for a father-son bonding experience.

4 Smuggled into the U.S. six ortolans, tiny, protected French songbirds that are drowned in Armagnac and then baked.

5 Helped a woman account for $20,000 in monthly expenses (tailoring: $6,000) to finalize a divorce.

6 Found and furnished an apartment (down to the margarita glasses) for a tech exec who'd just left his wife.

7 Intervened when an older woman, masquerading as an undergrad, seduced the heir of a wealthy family during his freshman year of college.

8 Enlisted a tax attorney for a woman whose husband, a hedge fund manager, had bolted to Singapore and left her with a $3.8 million lien on their house. (Result? No more lien.)

9 Coordinated a private rendezvous for 60 people with the secretive travel guru behind *Andrew Harper's Hideaway Report*.

10 Spent nine months arranging a party in an Irish castle for an 80-year-old patriarch.

11 Scouted hotels for a billionaire visiting his alma mater with his wife, three children, and three nannies and then furnished their rooms with their favorite towels.

ANSWERS: REILLY AND CLARK DIDN'T DO 4 OR 7—BUT THEY SAY OTHER FIXERS DID!

COVERT OPERATIONS

IF YOU'RE MERELY ULTRARICH, A MULTIFAMILY OFFICE WILL PROBABLY SUFFICE. BECOME A TRUE PLUTOCRAT, THOUGH, AND YOU CAN CREATE A SINGLE-FAMILY OFFICE. SFOs DON'T HAVE TO REGISTER WITH THE U.S. SECURITIES AND EXCHANGE COMMISSION AND TEND TO FLY BY STEALTH—ESPECIALLY THESE FIVE SHOPS. M.C.

FIRM: **Hillspire** CLIENT: **Alphabet Chairman Eric Schmidt**

WHAT WE KNOW: Hillspire had a rare moment in the public spotlight in April, when it bought a 20 percent stake in hedge fund manager D.E. Shaw. The firm invests in public and private securities, real estate, and other assets, according to its bare-bones website.

FIRM: **Crosby Advisors** CLIENT: **The Johnson family, which founded Fidelity Investments**

WHAT WE KNOW: Lane MacDonald, who played on the 1988 U.S. Olympic ice hockey team, took the reins at Crosby in 2014 after overseeing private equity for Harvard University's endowment. Fidelity acknowledges only that the SFO exists and confirms it's based in Salem, New Hampshire.

FIRM: **Euclidean Capital** CLIENT: **Hedge fund billionaire and former military-code cracker James Simons**

WHAT WE KNOW: Euclidean has a 401(k) with 20 employees participating, according to a public filing, and hired Ashvin Chhabra, formerly chief investment officer of Bank of America's Merrill Lynch wealth management unit, as president earlier this year. Other than that, it's a black box.

FIRM: **Walton Enterprises** CLIENT: **Descendants of Wal-Mart founder Sam Walton**

WHAT WE KNOW: Heirs to the Wal-Mart fortune have several entities through which they invest their money, including Walton Enterprises and Madrone Capital Partners. Richard Chapman, an accountant, is the CFO of Walton Enterprises, which acts as the overall family office. It's a holding company that, together with a separate family trust, controls more than 50 percent of Wal-Mart.

FIRM: **Sunrise Management Services** CLIENT: **Robert Stiller, founder of Keurig Green Mountain**

WHAT WE KNOW: Sunrise's CEO is a Burlington, Vermont–based lawyer named Stephen Magowan. His LinkedIn profile makes no mention of Stiller but says he oversees "private company investments, philanthropy, and other miscellaneous family matters."

BILDAGENTUR ZOONAR GMBH/SHUTTERSTOCK

EVERYBODY HATES TAXES

CHEYNE PACE'S YALE CAPITAL IS THIS YEAR'S FASTEST-GROWING REGISTERED INVESTMENT ADVISER, THANKS TO BETS ON MASTER LIMITED PARTNERSHIPS AND OTHER MONEY-CONSERVING STRATEGIES.

BY MARGARET COLLINS

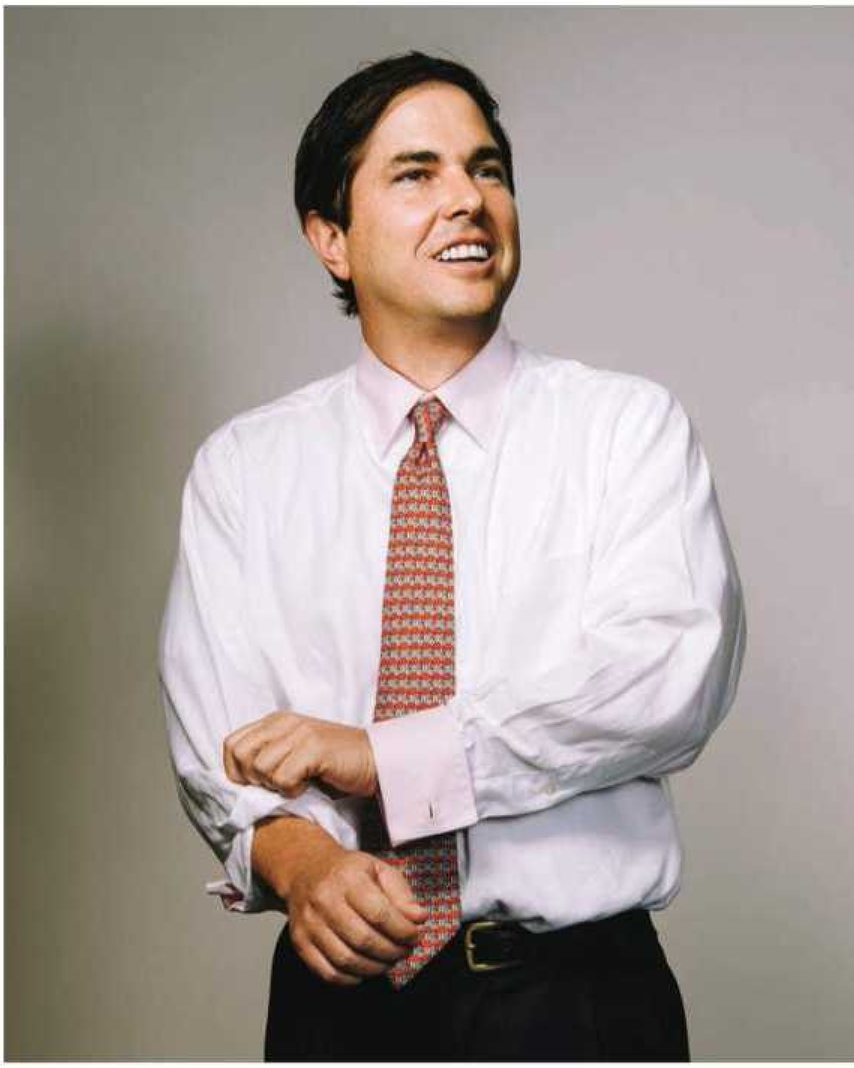
Investment adviser Cheyne Pace is preoccupied with tax efficiency—a focus that's helped him attract $1.7 billion in client money since he founded Yale Capital in 2004. Last year, when he thought about relocating, tax advantages were among the things he considered before moving himself and Yale's headquarters to Dorado, Puerto Rico.

U.S. investors are bemoaning the tax drain on their savings and seeking help to reduce the bite. Millionaires worry more about taxes than terrorism, ranking the issue third behind the political environment and government gridlock among their national concerns, a 2015 survey by research firm Spectrem Group found.

Wealth managers say they're working more on tax issues since the federal government boosted the levies on wages and investment gains of big earners in 2013 for the first time in a decade. Today, the marginal income tax rate, on earnings above about $400,000, is 39.6 percent, up from 35 percent in 2012. On top of that, some states target their richest residents. California raised its top marginal rate to 13.3 percent in 2012 from 10.3 percent on income above $1 million.

"After-tax returns matter, especially in a lower-interest-rate environment," says Elizabeth Nesvold, managing partner at Silver Lane Advisors, which specializes in mergers among wealth management firms. "As more baby boomers age, every penny will count."

Pace, 47, wants to see those pennies add up. He chooses investments from oil pipelines to shares of bank stocks that pay tax-preferred dividends to help clients build savings and lose less to levies. "I need to make sure their net return is as high as possible,"



PHOTOGRAPH BY BOB CROSLIN

he says. "One of those components is fees, and the other is taxes."

Yale boosted its assets under management 70 percent last year, making it the fastest-growing firm in *Bloomberg Markets*' second annual ranking of registered investment advisers. Wetherby Asset Management tops RIAs by size for a second year. The San Francisco–based firm managed $3.6 billion as of December 2014, up 3.5 percent from the previous ranking. A dozen companies are new to the list this year.

Pace works with 35 family groups who have at least $10 million apiece to invest. They're mainly entrepreneurs and executives from oil, gas, pharmaceutical, and technology companies. Many have a lot of their wealth in the stock of a company they took public or that they got in an acquisition. He's helped them protect against losses by transferring some of that stock into so-called exchange funds, which also hold shares from executives at other corporations. The strategy lets clients both diversify and defer taxes on gains because it doesn't trigger a sale, Pace says.

One of the firm's most successful investments is master limited partnerships. MLPs hold pipelines and other assets that transport natural resources, rather than the commodities themselves. When profitable, the securities provide distributions, similar to stock dividends, and offer tax deferrals on most of the income an investor receives.

Pace bet clients' money on a natural gas–transporting MLP called Energy Transfer Equity. The Dallas-based partnership gained more than 468 percent, with dividends reinvested, from 2007 through 2014. He's still a fan despite a 26 percent drop this year through mid-October in MLPs in general and a plunge in overall energy prices. Six of the firm's 10 biggest U.S. equity positions were in MLPs as of June 30.

Pace got his MBA at Yale University, where he focused on asset allocation. He kicked off his wealth management career at Goldman Sachs in 1994, a year when MLPs were first catching on. He moved to Merrill Lynch in St. Petersburg, Florida, in 1999. To win business, he cold-called Silicon Valley entrepreneurs whose companies were going

TOP 50 REGISTERED INVESTMENT ADVISERS

	Firm	Main Office	AUM, in Millions*	YOY % Change	YOY Rank
1	Wetherby Asset Management	*San Francisco*	$3,626	3.5	
2	Homrich Berg	*Atlanta*	3,518	15.8	6 (TIE)
3	Evanson Asset Management	*Carmel, California*	3,480	9.8	
4	Bartlett	*Cincinnati*	3,351	4.4	
5	Klingenstein, Fields	*New York*	3,200	2.2	
6	RegentAtlantic	*Morristown, New Jersey*	3,094	7.5	
7	R.M. Davis	*Portland, Maine*	3,072	8.8	
8	Dowling & Yahnke	*San Diego*	2,970	7.7	
9	Atherton Lane Advisers	*Menlo Park, California*	2,703	16.6	4
10	Ropes Wealth Advisors	*Boston*	2,384	**	
11	Halbert Hargrove Global Advisors	*Long Beach, California*	2,226	5.3	
12	Budros, Ruhlin & Roe	*Columbus, Ohio*	1,956	5.3	
13	Heritage Investors Management	*Bethesda, Maryland*	1,931	12.0	
14	Wescott Financial Advisory Group	*Philadelphia*	1,926	14.8	9
15	Retirement Advisors of America	*Addison, Texas*	1,912	-0.4	
16	EP Wealth Advisors	*Torrance, California*	1,850	23.5	3
17	Wharton Business Group	*Malvern, Pennsylvania*	1,829	15.3	8
18	JMG Financial Group	*Oak Brook, Illinois*	1,733	6.3	
19	Yale Capital	*Dorado, Puerto Rico*	1,700	69.6	1
20	Badgley Phelps Investment Managers	*Seattle*	1,684	6.8	
21	TCI Wealth Advisors	*Tucson, Arizona*	1,661	8.7	
22	Destination Wealth Management	*Walnut Creek, California*	1,490	5.4	
23	Sand Hill Global Advisors	*Palo Alto, California*	1,420	12.8	
24	Barrett Asset Management	*New York*	1,418	7.8	
25	Accredited Investors	*Edina, Minnesota*	1,406	4.9	
26	Sage Financial Group	*West Conshohocken, Pennsylvania*	1,384	14.3	10
27	Retirement Income Solutions	*Ann Arbor, Michigan*	1,334	11.3	
28	Chesley, Taft & Associates	*Chicago*	1,327	7.3	
29	Northeast Investment Management	*Boston*	1,324	7.0	
30	Resource Consulting Group	*Orlando, Florida*	1,320	4.5	

Fastest growth this year

KEY
Firms with greatest year-over-year growth
Rank according to YOY growth

**AUM includes discretionary assets that an adviser can use to buy and sell securities and make other investments.*
***No full year of AUM because filing was Aug. 15, 2014.*
Source: Bloomberg

public. When he broke out on his own to form Yale about five years later, clients with about $180 million in assets joined him. Today, he owns more than half of the business.

RIAs have increased their share of the wealth management market every year since 2007, more than doubling the assets they manage to $2.7 trillion as of 2014, research firm Aite Group reports. These independents have a duty under the Investment Advisers Act of 1940 to put customers' interests first. They usually earn a fee based on assets under management. Brokers, who often call themselves advisers, only have to recommend suitable investments and can make commissions from their firm's products.

While some financial professionals register as advisers and brokers, Pace is only an RIA. (Bloomberg ranked RIAs registered with the SEC that reported more than 75 percent of their clients have $2 million in net worth or $1 million with the adviser. We excluded those that take commissions or are affiliated with a bank, insurer, or other financial firm.)

Yale is the only firm in our ranking of the top 50 RIAs that has relocated to Puerto Rico. Its clients currently get no tax relief from the move. But owners of investment firms who become residents pay no capital gains taxes when they receive a percentage of the investment profits, says Gabriel Hernández, who heads the tax division of accounting firm BDO Puerto Rico. If the Puerto Rican company passes distributions or dividends to owners from the fees it collects, those are tax-free, too, Hernández says.

There's a catch: You must live in Puerto Rico at least 183 days in a year, show close social ties, and employ at least three Puerto Rican residents at the firm. Pace says he's trying to become a resident himself, but any tax advantages for him are still unclear.

One challenge all RIAs face is succession. The average age of founders in our ranking is 61. Pace says he's delegating more, but it's hard because he wants to be involved in every portfolio. When it comes to eventually passing the reins, he says he'll look for someone with an academic background who'll maintain his tax-efficient focus—be it in Puerto Rico or beyond. BM

TOP 50 REGISTERED INVESTMENT ADVISERS

KEY

Firms with greatest year-over-year growth

Rank according to YOY growth

	Firm	Main Office	AUM, in Millions*	YOY % Change	YOY Rank
31	Salem Investment Counselors	*Winston-Salem, North Carolina*	1,312	10.1	
32	Green Square Capital	*Memphis, Tennessee*	1,303	2.9	
33	Bridgewater Advisors	*New York*	1,262	6.7	
34	Montag	*Atlanta*	1,249	10.3	
35	Brightworth	*Atlanta*	1,206	11.9	
36	Capstone Financial Advisors	*Downers Grove, Illinois*	1,197	7.8	
37	McQueen, Ball & Associates	*Bethlehem, Pennsylvania*	1,186	4.5	
38	Parsons Capital Management	*Providence, Rhode Island*	1,093	7.6	
39	Guyasuta Investment Advisors	*Pittsburgh*	1,081	9.9	
40	Balentine	*Atlanta*	1,043	4.8	
41	HHG	*Darien, Connecticut*	1,027	0.3	
42	Emery Howard	*Burlingame, California*	1,026	1.7	
43	TrueWealth	*Atlanta*	1,001	16.3	5
44	Heritage Financial Services	*Westwood, Massachusetts*	956	14.2	
45	Sapere Wealth Management	*Matthews, North Carolina*	945	-5.8	
46	Reynders, McVeigh Capital Management	*Boston*	926	26.5	2
47	New England Private Wealth Advisors	*Wellesley, Massachusetts*	900	13.3	
48	Durbin Bennett Private Wealth Management	*Austin, Texas*	898	6.5	
49	ParenteBeard Wealth Management	*Lancaster, Pennsylvania*	882	15.8	6 (TIE)
50	Maryland Capital Management	*Baltimore*	881	14.1	

**AUM includes discretionary assets that an adviser can use to buy and sell securities and make other investments. Source: Bloomberg*

HOW WE CRUNCHED THE NUMBERS

Bloomberg Markets ranked active U.S. registered investment advisers that provide financial planning services based on the data they reported to the Securities and Exchange Commission as of June 1, 2015. We used filings as of June 2, 2014, for year-over-year comparisons.

The ranking excludes firms that operate as or are affiliated with broker-dealers, banks, or thrifts; trust or insurance companies; or firms with employees who are registered representatives of broker-dealers. We also excluded firms that take commissions, sell financial products, or operate as real estate agents, lawyers, insurance brokers, or accountants. We did not consider multifamily offices.

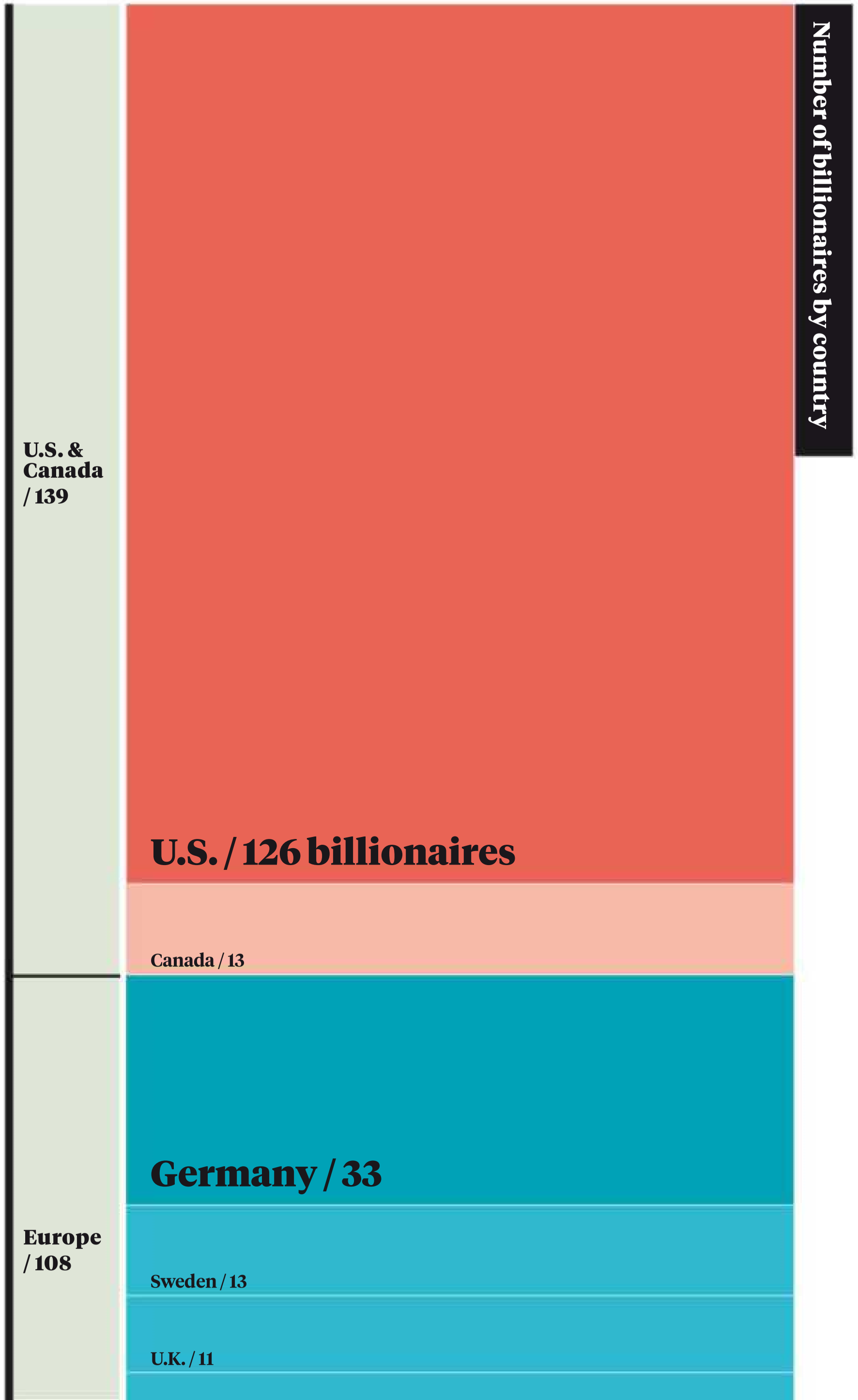
Our RIAs obtained more than 75 percent of their assets under management from high-net-worth individuals. Up to 25 percent of their AUM was from any of the following sources: investment and business development companies; pooled investment vehicles; pension and profit-sharing plans; charitable organizations, corporations, or other businesses; state or municipal government entities; other investment advisers; and/or investors that the RIAs described in the filings as "other."

Bloomberg Rankings
rankings@bloomberg.net

WINNERS AND LOSERS

BY ROBERT LaFRANCO AND JACK WITZIG

GYRATING MARKETS, FINICKY SHOPPERS, PLUNGING OIL. THE WORLD'S 400 RICHEST PEOPLE HAVE HAD BETTER YEARS. THEY LOST A COLLECTIVE $115 BILLION IN 2015 THROUGH SEPT. 30, AND THEIR NET WORTH FELL TO $3.9 TRILLION, OR 5 PERCENT OF GLOBAL GROSS DOMESTIC PRODUCT. AMAZON.COM'S JEFF BEZOS TOPPED ALL BILLIONAIRES, WITH A 60 PERCENT GAIN, WHILE AN 84 PERCENT PLUNGE KNOCKED CHINA'S WANG JING OUT OF THE TOP 400.



Biggest Gain

Jeff Bezos
Tech / U.S.
+$17.3 B (+60.4%)

Warren Buffett
Finance / U.S.
-$12.7 B (-17.2%)

Biggest Loss

Technology moguls already claimed the biggest chunk of North American billionaire money. And they got 2 percent richer, with a collective $425 billion of wealth. Financial titans saw their combined net worth fall 7 percent to $275 billion.

Amancio Ortega
Retail / Spain
+$8.7 B (+14.2%)

Ingvar Kamprad
Retail / Sweden
-$6.0 B (-13.4%)

Europe in turmoil? Not its billionaires, who added $7.4 billion. Spain's Ortega, the only gainer among the world's five richest, rose to No. 2 worldwide, behind Bill Gates.

Wang Jianlin
Real Estate / China
+$6.6 B (+26.4%)

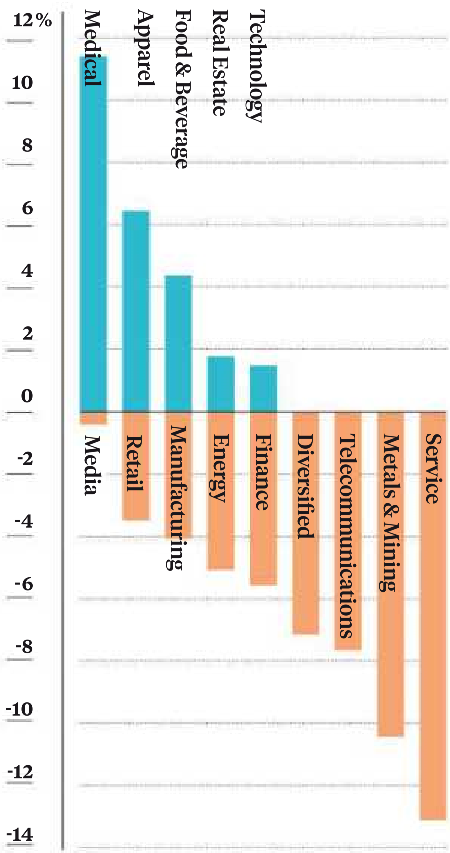
Robin Li
Tech / China
-$6.6 B (-39.7%)

China had 32 billionaires among the 400 richest in June. By Sept. 30, the stock market turmoil had reduced their ranks to 25. Wang Jing, who's funding a $50 billion rival to the Panama Canal, fell out of the top 400 after his fortune sank to $1.1 billion.

DRUGS MEAN MONEY

Medical billionaires, with assets from Indian generics maker Sun Pharmaceutical Industries to drugstore chain Walgreens Boots Alliance, enjoyed healthy gains. Not so for their leisure services counterparts. Macau, China, casino operators and Carnival cruise line Chairman Micky Arison stumbled.

YTD Net Worth Percentage Change by Industry for All 400 Billionaires



All figures as of Sept. 30. Source: Bloomberg

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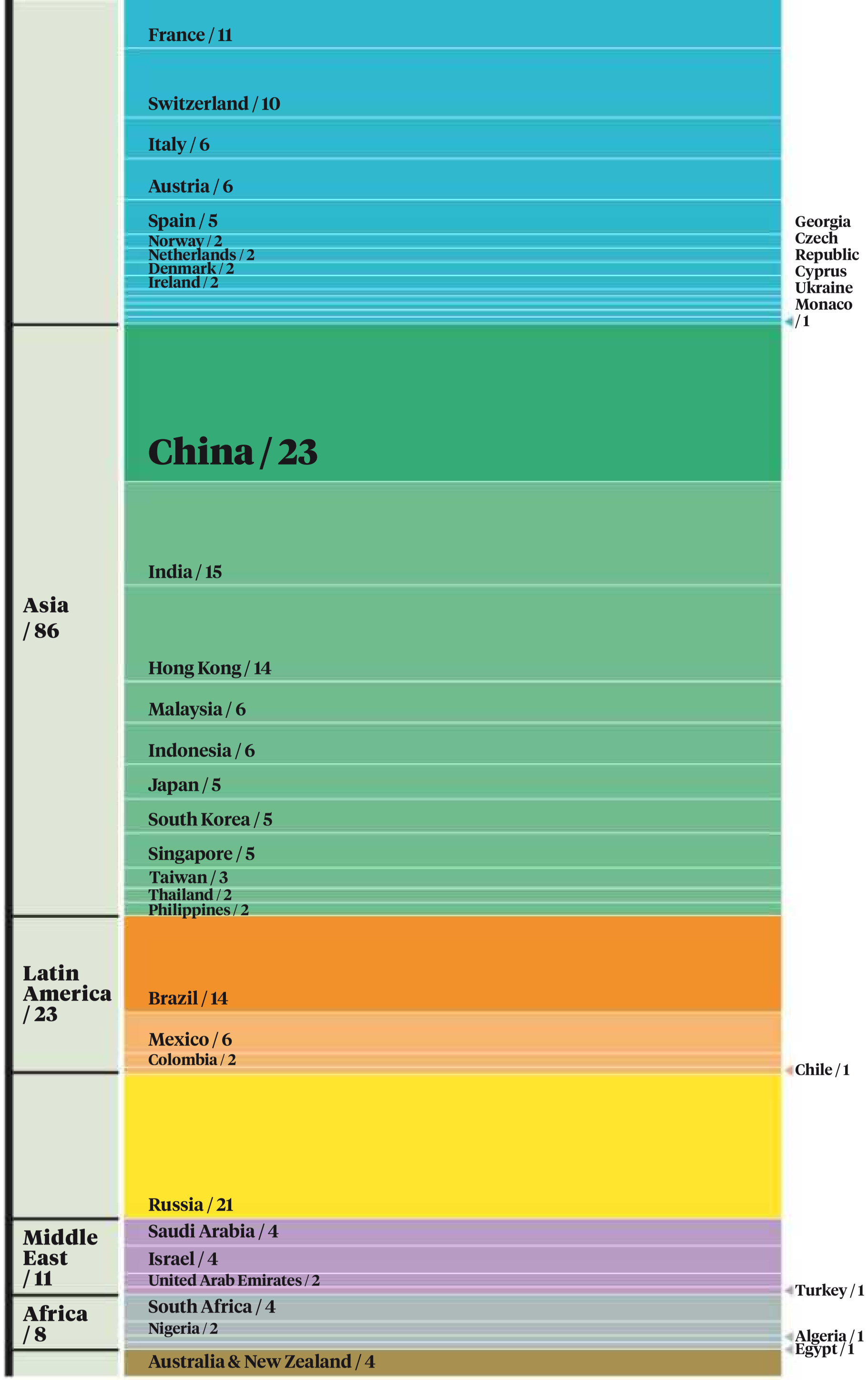


Alejandro Santo Domingo
Beverages / Colombia
+$1.0 B (+7.2%)

Carlos Slim
Diversified / Mexico
-$14.7 B (-20.3%)

Finance chiefs regionwide control $67 billion. They fared the worst, with a 10 percent drop.

Leonid Mikhelson
Energy / Russia
+$4.1 B (+40.9%)

Oleg Deripaska
Materials / Russia
-$2.5 B (-30.1%)

Mikhelson and metals mogul Vladimir Potanin defied commodities drops, with Russian billionaires up 2 percent.

Erman Ilicak
Diversified / Turkey
+$541 M (+16.0%)

Beny Steinmetz
Metals & Mining / Israel
-$1.3 B (-26.2%)

Diversified fortunes made up 64 percent of the combined net worth of Middle Eastern billionaires in our top 400.

Christo Wiese
Food & Drug / South Africa
+$1.1 B (+17.6%)

Aliko Dangote
Cement & Aggregates / Nigeria
-$3.4 B (-18.2%)

Consumers were the best bet as retail fortunes outperformed resource riches.

$479,000

AH,

STEEPED IN THE ROMANCE OF CLASSIC CARS, SIMON KIDSTON ARRANGES THE SALE OF VERY EXPENSIVE ONES. NOW, HE'S LAUNCHED AN INDEX TO HELP COLLECTORS GAUGE THE MARKET.

BY JEREMY KAHN

Goodwood Revival is a nostalgia-drenched festival held every September on the Earl of March's estate outside Chichester, England. The event, which memorializes the heyday of Goodwood's motor circuit, where races were held from 1948 to 1966, draws thousands of classic auto enthusiasts, dressed in period costume, who come to gawk at old race cars and watch them thunder once more around the speedway.

For classic car broker and consultant Simon Kidston, the nostalgia is often personal, even though, at 48, he's too young to have seen these cars in their prime. Strolling through Goodwood's paddocks, where cars are displayed and prepped for the track, Kidston gazes at a row of 1960s-era Ferraris with the wistful look of a man who has spied an ex-lover in a crowd. He points to a canary yellow 1965 Ferrari 250 LM. "That was the first valuable car I sold," he says. "I drove all over London in that car when I was 24."

Of course, "valuable" back then—in 1992—meant the car was worth $1.8 million. Today, that Ferrari is

THE SMELL OF CASTROL IN THE MORNING

PHOTOGRAPHS BY TIM SCOTT

Wearing his late father's Royal Navy uniform, **Kidston** sits in his 1938 Bugatti Type 57C Cabriolet at this year's Goodwood Revival.

worth $15 million. And while Ferrari prices have been especially turbocharged, the entire classic auto market has been hotter than the exhaust pipes of a Shelby Daytona after a run on the Bonneville Salt Flats. This year, vintage cars were the best-performing alternative asset class tracked by Bloomberg, returning 13 percent through June 30 and an average of more than 25 percent a year for the past three years, according to London-based Historic Automobile Group International (HAGI). It's pretty much been that way since the 2008 financial crisis, as investors have piled into the market looking for hard assets with reliable returns. Indexes that track classic car values have recorded double-digit returns every year for seven years.

Kidston has had a pit-row seat for this race toward ever-higher valuations. "He is a key figure in the industry," says Mick Walsh, editor-in-chief of *Classic & Sports Car* magazine. "His contacts among collectors with the best cars in the world and his knowledge of the subject are really second to none."

Now, Kidston says he's on a mission to bring greater transparency to a market rife with misinformation and shady practices—including dealers who trade the same car among themselves to inflate its value or who try to pass cars off as similar, more valuable models. In November 2014, to give collectors what he says is a better gauge of value than a dealer's word, Kidston launched the K500, an index compiled from public auction sales data for 500 valuable vintage models. His K500 website also offers a "collectibility rating" and price guidelines. The project is not without its detractors—competing indexes use different methodologies—but Kidston sees the K500 becoming a tool for collectors in much the same way wine critic Robert Parker's ratings have become essential for oenophiles.

Geneva-based Kidston headed the motoring department at auction house Brooks and then at Bonhams, which Brooks acquired, for almost a decade before striking out on his own in 2006. He frequently judges and serves as compère at two of the world's premier classic car shows, the Pebble Beach Concours d'Elegance in Carmel, California, and the Concorso d'Eleganza Villa d'Este on the shores of Lake Como in Cernobbio, Italy. And over the past decade, he has brokered sales of some of the most expensive vintage cars, including two 1963 Ferrari 250 GTOs (worth $40 million to $50 million each), a 1937 Mercedes-Benz W125 Grand Prix car ($30 million), three 1964 Ferrari 250 LMs ($16 million apiece), three 1961 Aston Martin DB4GT Zagatos ($12 million each), and three early-1960s Ferrari 250 GT SWB California Spyders ($17 million apiece).

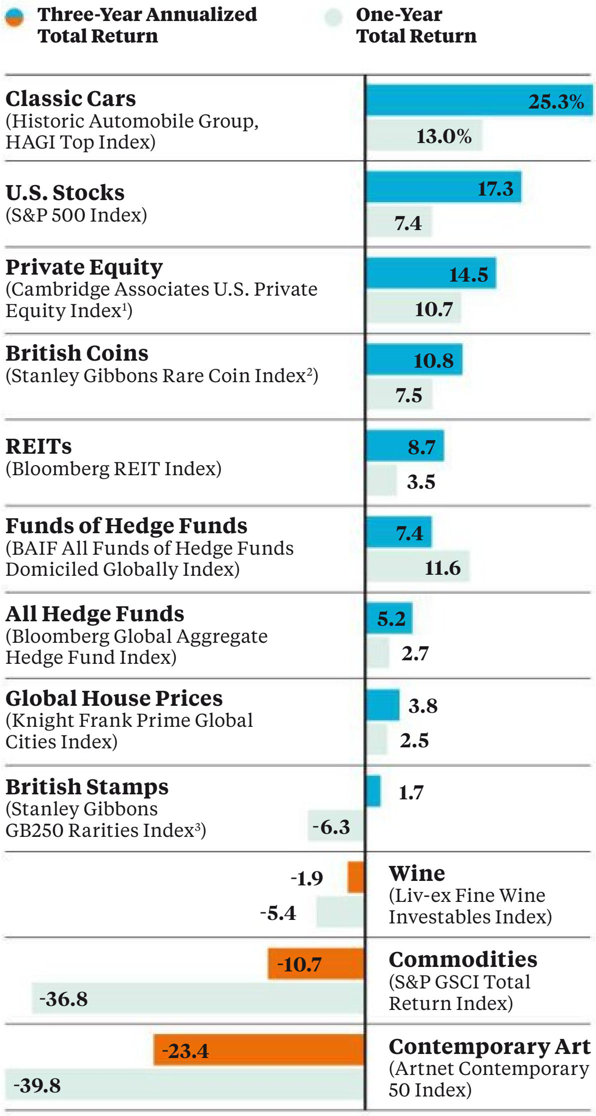
At Goodwood, Kidston—wearing a vintage orange tweed sport coat with brown checkered shirt, matching tie, and Ivy-style driving cap—shows off an encyclopedic knowledge of cars and motor history: Here's the Ferrari 246 Dino in which Phil Hill won the 1960 Italian Grand Prix; there's a 1930s Grand Prix Alfa Romeo designed by Enzo Ferrari. He pauses in the paddocks and inhales deeply in an inadvertent homage to Robert Duvall's character in *Apocalypse Now*, Lt. Col. Bill Kilgore. "You smell that?" he says. "It's Castrol motor oil. It is the smell of classic car racing. It may sound weird, but it is quite evocative and quite distinctive."

Kidston was born with Castrol in his veins. His father, an aristocratic British naval officer, was an amateur racer, and his uncle was one of the illustrious Bentley Boys, a group of Jazz Age British sophisticates who won the 24 Hours of Le Mans race four times in a row from 1927 to 1930. Kidston grew up in a household steeped in automotive lore and surrounded by sports cars—"always the latest models," Kidston says. In 1976, when Kidston was 8, his family left Southover House, their manor house in Dorset, England, to become tax refugees in Tuscany, where they owned a 320-hectare (800-acre) farm. Kidston attended private schools in Italy and Switzerland, becoming fluent in Italian and French—language skills that have helped him win European clients over the years.

Among the car collections Kidston has helped build are those of Jean-Pierre Slavic, a Swiss watch industry tycoon with an unparalleled Ferrari stable, and designer Marc Newson. He has also provided advice to designer Ralph Lauren on his collection. Even in a high-gloss industry, Kidston stands out for his marketing panache: He produces professional-quality short films, often elegiac or whimsical in tone, to promote Kidston SA or specific cars he's selling.

THE FAST LANE

A quintet of mostly 1960s-era Ferraris sold for an average of $24.4 million in August 2014 and February 2015. Such deals have powered historic cars to the top of our alternative investment ranking.



Returns are through June 2015, unless otherwise noted. [1]Through March 2015. [2]Through December 2014. [3]Through May 2015.
Sources: Artnet, Bloomberg, Cambridge Associates, Historic Automobile Group International, Knight Frank, Liv-ex, Stanley Gibbons
Ranking compiled by Alex McIntyre.

CAR HEAVEN

Kidston has helped sell some of the world's most coveted classics.

1956 JAGUAR D-TYPE

1957 MASERATI 200Si

1962 ASTON MARTIN DB4GT ZAGATO

1964 FERRARI 250 GTO

1965 FERRARI 250 LM

1973 LAMBORGHINI MIURA SV

Some are more self-indulgent. A fan of the 1969 film *The Italian Job*, he searched out Alpine switchbacks that appeared in the movie and re-created scenes using his own black 1973 Lamborghini Miura in 2009. "It shows we are living the lifestyle, not just selling it," he says.

Besides the Miura, Kidston's personal collection includes a McLaren F1 supercar, a Mercedes-Benz 300SL Gullwing, a Porsche 911 Carrera 2.7 RS, a 1992 Bentley Continental, and a 1938 Bugatti Type 57C Cabriolet once owned by his father and which he spent years tracking down. He often enters these in Concours events. And he will sometimes drive in what he calls "picnic races," the kind of rallies where one is more likely to stop for Champagne than a tire change. (These can be harrowing too: He once drove U.S. collector and venture capitalist Bernard Carl's 1962 Ferrari 250 GTO—currently considered the world's most valuable model, worth $40 million to $50 million—in a rally. Terrified of damaging it, Kidston was at first reluctant to take it beyond third gear but soon found himself pushing 7,000 rpm and rocketing through the French countryside, his exact speed indeterminate because the GTO, built for racing, lacks a speedometer. "It was utter bliss," he says.)

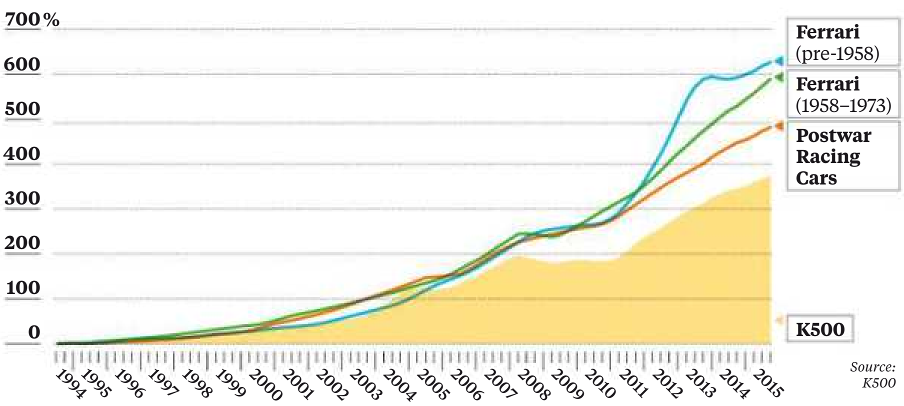
Kidston's clients admire his passion—and his honesty. "Simon is the kind of guy, when he says something, you can rely on it," says Detlef Hübner, chairman of German packaging and logistics company Deufol and a self-described "petrol head." Hübner says he shares Kidston's sensibilities and perfectionism about restoring cars. "If it is a car from the 1970s, it should drive like a car from the 1970s and not like a new one," he says.

While Kidston disdains the new breed of collector who he says views cars as simply another alternative asset class rather than something to be driven and enjoyed, he says he was twice tempted, in 2007 and 2011, to launch a classic car fund. Both times he abandoned the idea. He thought—perhaps overcautiously, he now says—that the market was peaking; he'd also concluded classic cars were too illiquid to work in a fund unless investors agreed to long lockup periods that the fund's returns might not be attractive enough to warrant. Storage, maintenance, and insurance eat into potential profits. And taxes are tricky: In many countries, vintage cars can be sold tax-free, but shares in a fund would be subject to capital gains tax.

Dietrich Hatlapa, a former Barings sales director who in 2007 cofounded HAGI, says he, too, is often approached by groups wanting to start classic car funds, but he has never seen a project get past the marketing stage. Hatlapa is reluctant to publicly criticize competing classic car indexes, like Kidston's. But he says HAGI's Top Index—which tracks 28 especially valuable marques—is the only one to use a market cap weighting calculation to adjust for the rarity of a model, meaning the escalation in prices for a Ferrari 250 GTO

VROOM, VROOM

Kidston's K500 Index, a price guide for collectors, shows turbocharged gains, especially since 2011.



Source: K500

COURTESY OF KIDSTON

This year's **Goodwood Revival** in southern England, as it had in the past, drew thousands of classic car enthusiasts.

can't influence the index more than a more prevalent Porsche 911. He also says that HAGI captures a truer picture of the market because it takes in self-reported private sales data as well as public auction figures. Kidston counters that private sales data are notoriously unreliable. (The producers of a third index, Hagerty's Blue Chip Index, claim it's more accurate because it's based partly on insurance underwriting data.)

Whichever index you use, there are signs car collectors may be starting to take their foot off the accelerator: This year, the percentage of cars selling at auction has fallen. Cars with an interesting, important, or even quirky history still sell, says James Knight, who heads the motoring department at Bonhams. But at Bonhams's auction at this year's Goodwood Revival, several multimillion-pound Ferraris and Jaguars failed to find buyers. For more run-of-the-mill specimens ("the sort of cars you can buy any weekend"), Knight says, "we are seeing it become more of a buyer's market."

Kidston partly blames the auction houses for this state of affairs, saying that they saturate the market by scheduling too many auctions over the same few weeks in September and promise owners unrealistic estimates to win consignments. The quality of the cars on offer suffers as a result, he says. "It undermines the very notion that classic cars are rare and that you should only buy the best," he says as he sips tea in a leather armchair inside the Driver's Club at Goodwood, his clipped English accent cutting through the nerve-jangling, 12-cylinder screams coming from outside.

Unlike the many newcomers to the market, Kidston remembers the early 1990s, when vintage car prices collapsed—Ferrari valuations fell as much as 70 percent—and took more than a decade to recover. Such a dramatic implosion is unlikely this time, Kidston says, but it's foolish to think prices will keep going up. "I'm not a prophet of doom, but you need to be aware of the risks," he says during another interview, this time in his Geneva office. Located on the fifth floor of an art nouveau building, it's decorated with vintage racing posters and old photographs. In a small anteroom filled with auction catalogs and car reference books stands a 1981 Ducati 900 "Mike Hailwood Replica" motorbike. "If you buy the best, you are unlikely to regret it, but determining what is really 'the best' is key," he says.

Finding the best is what Kidston does—and he's ever vigilant for the next deal. Coming out of the Driver's Club at Goodwood, Kidston waylays an amateur driver he knows—a dealer who specializes in Ferraris and supercars. The man is just off the track and still dressed in a fire-resistant, quilted Nomex race suit, helmet under his arm, sweat beading on his face. Kidston, who has a buyer in mind, presses him gently. "Do you know anyone looking to sell a Carrera GT?" Kidston asks, referring to the supercar that Porsche built from 2004 to 2007 that's now worth as much as $1 million. "I might. Is he looking for low mileage?" the dealer says. Kidston shoots back, "He's looking for low price." They both laugh.

It's true, classic cars aren't like financial assets: As Kidston says, a bond can't send you hurtling down the speedway at 180 miles per hour. But, hey, buying low and selling high never hurt. BM

BLOOMBERG TIPS

Tracking Classic Car Auctions

You can create an alert that will notify you when news stories related to classic car auctions appear. First, type **NI AUCTION <Go>** on the Bloomberg Professional service to display a list of headlines of news stories related to auctions and collectibles. Tab in to the NARROW THIS SEARCH field, enter *AUT*, and click on Automobiles under Topics in the list of matches. Next, click on the Display & Edit button on the red tool bar and select Set Alert Delivery. In the Delivery Options window, click on the box to the left of Deliver to Alert Catcher to select it. Click on the box to the left of Bring Catcher to Front so a check mark appears and then click on Close. JON ASMUNDSSON

A NEW LOOK FOR TRANSITIONAL CARE

THEY MAY LOOK LIKE BOUTIQUE HOTELS, BUT MAINSTREET'S PROPERTIES ARE ACTUALLY THE NEW GENERATION OF IN-PATIENT RECOVERY FACILITIES

mainstreet®

A new wave of transitional healthcare properties is shaking up a tired industry and proving that high-quality in-patient care can be synonymous with good business practice. Mainstreet, the largest developer of post-acute healthcare properties in the United States, is challenging the status quo with award-winning facilities that focus on innovative design and personalized care. And with 76 million baby boomers living in the U.S. today, the timing of this customized approach to healthcare couldn't be better.

According to Mainstreet founder and CEO Zeke Turner, there are three important factors to consider in the transitional care sector. "We've found that the consumer's general experience with healthcare leaves a lot to be desired," says Turner. "Transitional care is built around changing that consumer experience so that they're more engaged in their recovery. The second factor is the cost: Transitional care, in total, is much cheaper than other alternatives, most of those being the bed at the hospital where most recovery is still done today. Then the third factor is the outcome—getting to a place where we actually have intentional focus around people's wellness, and getting them to a better place than where they started."

Unlike the drab, generic, out-of-date facilities that have long been the industry standard, Mainstreet's properties are akin to boutique hotels both in their design and the consumer experience they offer, with a focus on access to top-notch healthcare professionals and rehab facilities.

"Everything is built around the hospitality experience," says Turner. "When a person comes in for the first time, they step into an environment that treats them like an individual. That's why we have customized care plans, because we want our consumers to be recognized as people and feel that their short stay is centered around them."

Take Mainstreet's 24-hour meal services, for example. If a hospital mandates that a hot dog is on the dinner menu, a patient will, as Turner explains, "feel like they're just being treated like a number." However, if a customer actually wants to eat a hot dog, and it is their choice, they will undoubtedly appreciate the independence.

BETTER BUSINESS THROUGH INNOVATION

With their dynamic new approach to the transitional-care experience, Mainstreet has found a niche in a sector ripe for innovation. Since 2008, the Indiana-based company has successfully financed, developed, leased and sold 20 properties, representing

a total value of $330 million. Thirteen more properties are currently under construction, at a value of $290 million.

"When you have demand meet up with a really good, innovative idea, then the projects are going to be successful," notes Turner. "One of the biggest problems with hospitals today is that they need to vacate beds before people are well enough to go home, and you can't just wheel them out and put them on the curb. We come in and solve a problem for hospitals. That's why we've had such a great track record of attracting investors."

With a base model that hinges on owning prime real estate, it is no wonder that Mainstreet has earned notice as a good place to invest money. And, of course, it doesn't hurt that the core value of the developer is to transform lives for the better through sustainable innovation.

"People like innovation, and they especially like innovation matched up with doing something good for people," says Turner. "We operate on the premise that you can have a positive impact on society and do it through excellent business practice. Those don't have to be mutually exclusive; they can actually enhance each other."

"TRANSITIONAL CARE IS BUILT AROUND CHANGING THE CONSUMER EXPERIENCE SO THAT THEY'RE MORE ENGAGED IN THEIR RECOVERY."

THE UPSIDE OF DISRUPTION

In order to innovate in any industry, you have to be prepared to challenge the prevailing wisdom. "We created this new product, and we're actually going into markets and presenting a new solution," says Turner. "By doing so, we're causing people to rethink the way that payment methodologies run, and why they have to be tied to licensure categories. Why can't they follow the person who's also getting the service? We're also showing that healthcare doesn't have to be sterile. You can actually design beautiful properties, still provide great medical care and have those coexist.

"The investors who have been with us since we started in 2002 have seen returns well into the 20 percent range," Turner says. "We've got a great track record, and I now feel like we're at a place where we're not a growth company anymore. We're really an enterprise—but we're an enterprise that has a lot of momentum behind it, and still a lot of growth potential."

— *Alice Wasley*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THE ULTIMATE SOVEREIGN WEALTH FUND

THE CROWN ESTATE, WHICH GENERATES A TIDY INCOME FOR QUEEN ELIZABETH II, OWNS CHUNKS OF LONDON'S WEST END AND VAST SWATHS OF RURAL BRITAIN.

BY STEPHANIE BAKER   PHOTOGRAPHS BY CHRISTOFFER RUDQUIST

Fifteen years ago, London's Regent Street was known for Liberty, the high-end department store with its mock Tudor facade, and Hamleys, the 255-year-old toymaker. Otherwise, it was a West End backwater filled with airline offices, carpet shops, and stores selling royal kitsch aimed at tourists.

Today, it's a global shopping mecca. Apple, J.Crew, Hugo Boss, Michael Kors, and Brooks Brothers, among others, have opened flagship megastores on Regent Street, turning it into a giant outdoor mall in the heart of London.

This didn't happen by accident. Almost all of Regent Street, along with huge swaths of central London, is owned by the Crown Estate, which manages a property portfolio worth £11 billion ($17 billion) on behalf of the British monarchy and Her Majesty's Treasury. Once a sleepy rent collector, the Crown Estate has morphed into a nimble corporate property investor that has helped keep London in the forefront of great world cities.

Like London itself, the Crown Estate is booming. It posted a record £285 million return to Treasury coffers in the year ended on March 31, up almost 7 percent over the previous year. That's been good news for Queen Elizabeth II, who gets 15 percent of the estate's annual profit in the form of a Sovereign Grant to fund the royal family's living expenses. While the rest of Britain endures lingering austerity alongside modest growth, the queen's annual income is set to rise to £42.7 million in fiscal year 2017, up from £31 million in fiscal year 2013.

"It's the original sovereign wealth fund, investing on behalf of the crown," says Tom Appleby, a senior lecturer at the University of the West of England. "They've acquired a lot and done joint ventures, which makes them more a sovereign wealth fund than a passive land manager."

Alison Nimmo, the Crown Estate's 51-year-old chief executive, says the business's focus on total return makes it more like a real estate investment trust paying high dividends than a sovereign wealth fund, which is typically a more-diversified portfolio designed to accumulate wealth for a nation.

Nimmo downplays the role of the royal family, saying she meets with the queen just once a year to give her an update. Not that the queen is a mere bystander: "She's very interested in the business," Nimmo says. The queen faced uncomfortable headlines about her rising paycheck in June, at a time when the government was readying deep welfare cuts. Still, she remains almost impregnably popular; 68 percent of Britons believe the monarchy is good for the country, according to a YouGov poll in September. By contrast, recently elected Labour Party leader Jeremy Corbyn, a staunch anti-monarchist, is the least popular new opposition leader since such polling began in 1955.

A map of the Crown Estate's London holdings resembles a Monopoly board at the end of a game in which one player is clearly winning. In addition to 1.2 miles (2 kilometers) of retail frontage on Regent Street, the estate owns half of St. James's—the rectangular historic district defined by the Ritz, Piccadilly Circus, Trafalgar Square, and St. James's Palace—where it's overseeing a £320 million commercial redevelopment to revitalize the area. With 8 million square feet (743,000 square meters) of mixed-use space worth about £6 billion, the Crown Estate is the largest landlord in the West End. It also owns most of so-called Billionaires Row: Kensington Palace Gardens, a street where it's sold long leases to the likes of steel tycoon Lakshmi Mittal and Chelsea Football Club owner Roman Abramovich.

Outside London, the Crown Estate holds 340,000 acres (138,000 hectares), making it one of the largest rural landholders, after the Forestry Commission and the National Trust. It owns about half of the U.K. foreshore (the land between high- and low-water marks), giving it leasing rights for marinas and harbors, as well as the U.K. seabed out to 12 nautical miles

CEO **Alison Nimmo** on the terrace at the Crown Estate's main office

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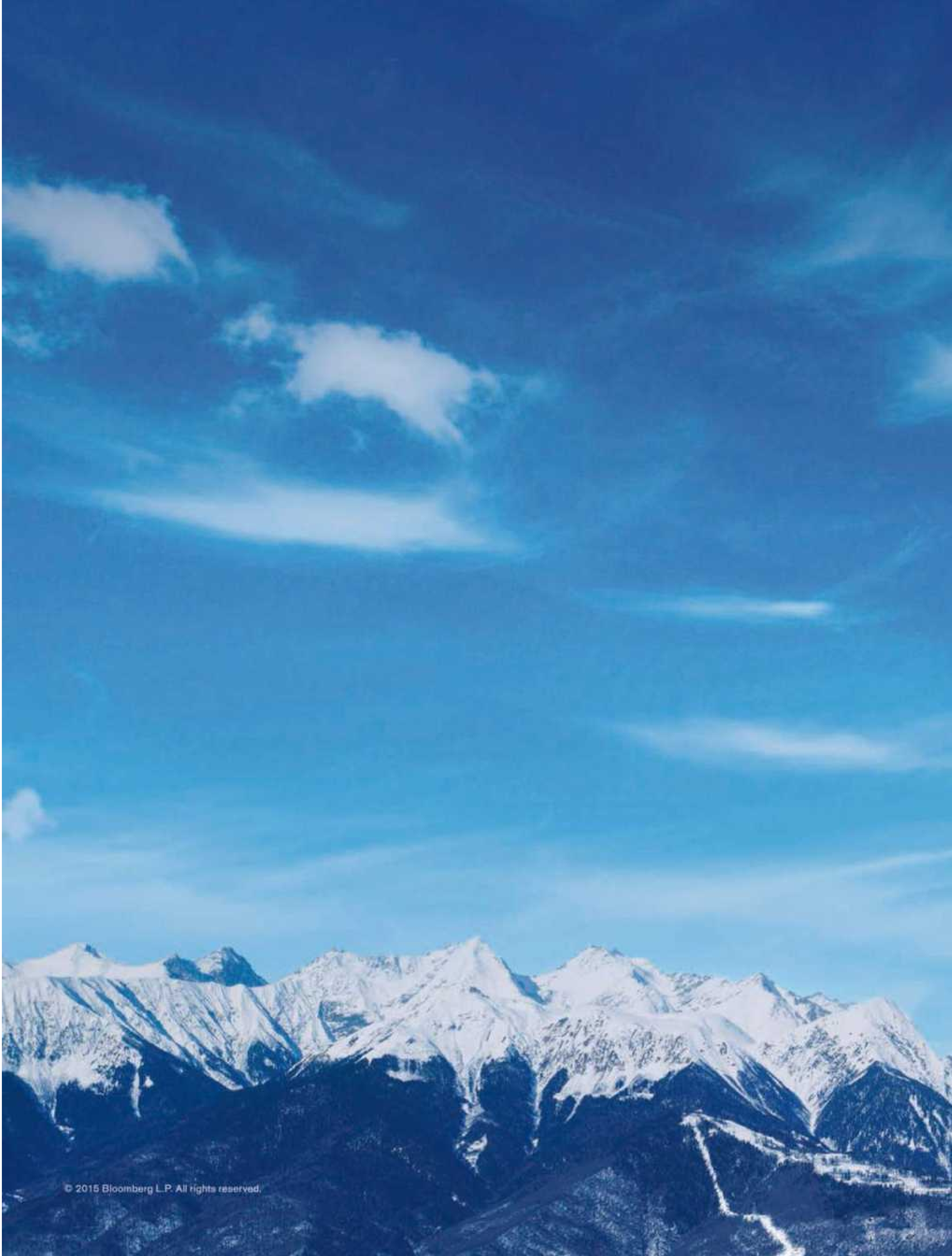


(22 kilometers), which it's turned into a money-spinner by selling leases to offshore wind farms that generate 5 percent of the U.K.'s electricity supply. Plus, it owns 19 shopping complexes across the country.

One of the quirks of the Crown Estate is that it's barred by law from taking on debt. For a real estate company, that's like boxing with your hands tied. To raise cash, it's brokered £1.5 billion worth of joint ventures during the past five years with high-profile partners, including Norges Bank Investment Management, which manages Norway's sovereign wealth fund, and Gingko Tree Investment, a unit of the agency that manages China's foreign-exchange reserves. "We're a very active asset manager," says Nimmo. "We realized partnerships are a powerful way of driving forward our business model."

Like many British institutions—the House of Lords, the monarchy itself—the Crown Estate has a distinct set of rules and defies neat and tidy categories. It manages the holdings for "the crown," but they're not the queen's personal private property.

The line between queen and crown is sometimes fuzzy. Windsor Castle is where the queen spends many weekends. It's owned by the charitable Royal Collection Trust (yet another entity), but the Crown Estate owns the surrounding 15,800 acres that include Windsor Great Park. While the Crown Estate's stated aim is to "enhance" the return on all assets in its portfolio, it runs the Windsor holdings at a loss and is barred from selling them.

The oddities of the Crown Estate's portfolio sometimes kick up bizarre questions, such as this one from its website: "Do whale carcasses beached on Crown Estate foreshore belong to The Crown Estate?" Answer: "No. Whales, amongst other species, are part of what is known as 'Royal fish,' and when beached, theoretically The Queen can claim ownership. In practice, however, it is dealt with by a government or local agency, dependent on the location of the whale."

Some of the Crown Estate assets date back to the Norman Conquest. In 1760, George III surrendered revenue from crown property in return for a fixed annual payment called the Civil List. Management of the crown's assets has undergone various permutations since then. From 1851 to 1924, something called the Commissioners of Woods, Forests, and Land Revenues managed the portfolio.

It wasn't until the 1961 Crown Estate Act that the current public body came into existence. The next monarch, presumably Prince Charles, will be expected to sign over the revenues of the Crown Estate to the government once again.

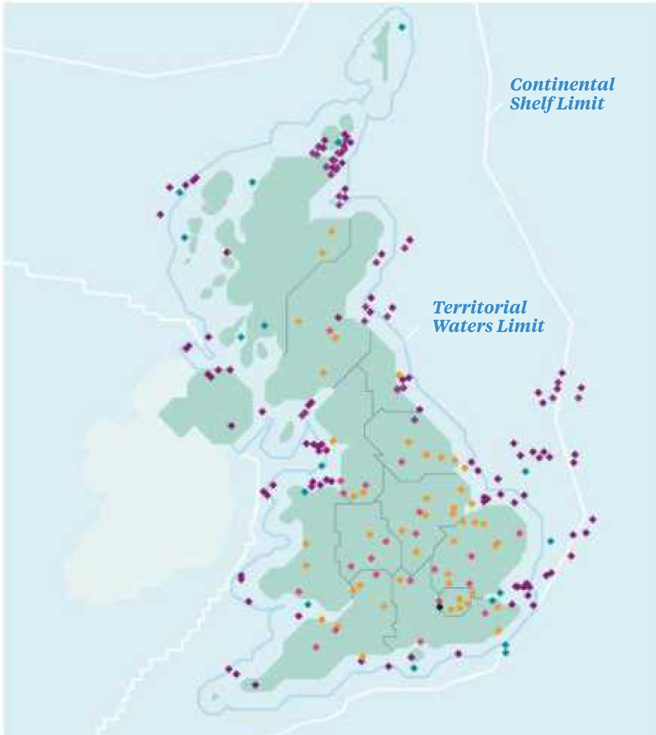
Further changes came in 2012, when Chancellor of the Exchequer George Osborne scrapped the Civil List and eliminated separate grants covering royal travel, communication, and maintenance of the royal palaces. He replaced those payments with a Sovereign Grant that pays the queen 15 percent of the Crown Estate's annual profit from two years prior. It was the first time since 1760 that the queen's funding was pegged to the Crown Estate. The formula wasn't designed to deliver bumper paychecks to the queen. In announcing the Sovereign Grant, Osborne said it would ensure the royal family will "do as well as the economy is doing."

Not exactly. However the Crown Estate's profits are sliced, its success and, by extension, the queen's bank balance are inextricably tied to U.K. property prices, whose growth has far exceeded overall economic growth. The value of the portfolio has soared to £11 billion today from £6.2 billion in 2010. "The Crown Estate is an odd beast, but it works," says the University of the West of England's Appleby.

The Crown Estate's transformation into spry property manager began in the early 2000s. By then, most of Regent Street's 100-year leases, inked during Queen Victoria's reign, had begun to expire. In 2002, the

All Over the Map

Historically one of Britain's biggest landowners, the Crown Estate has become a nimble property developer.



Value

Urban
£8.2 billion
Regent Street, St. James's, in London; 19 shopping complexes across the U.K.

Coastal and Rural
£1.6 billion
Coastal: Aquaculture businesses, marinas, mooring facilities, half of the country's foreshore (the land between high- and low-water marks)

Rural: 340,000 acres of agricultural land, forests, mineral deposits (sand, gravel), Mines Royal (gold, silver)

Energy and Infrastructure
£868 million
Leases in territorial waters for offshore wind farms that generate 5 percent of the U.K.'s electricity; natural gas storage rights on the U.K. continental shelf

Windsor Estate
£261 million
15,800 acres, including Windsor Great Park, golf courses; extensive forests; residential and commercial properties; and Ascot Racecourse, where the queen watches her horses compete

As of March 31.
Source: The Crown Estate

Crown Estate launched a £1 billion project to regenerate the street, renowned for its curved shape designed by 19th-century architect John Nash.

The turnaround began in earnest in 2004, when Europe's first Apple Store opened on Regent Street. Other global brands followed: Banana Republic, J.Crew, Superdry. In 2011, when Burberry's then-CEO Angela Ahrendts announced that the luxury label was planning to open a 44,000-square-foot space, she likened Regent Street to "the Champs-Élysées or Fifth Avenue."

That same year, under Nimmo's predecessor, Roger Bright, the Crown Estate teamed up with Norway's sovereign wealth fund, which paid £450 million for 25 percent of a 150-year lease on the Regent Street assets. Nimmo, who was working at the Olympic Delivery Authority ahead of the 2012 Summer Games, recalls headlines comparing the transaction to selling the Crown Jewels. "It was brave and controversial at the time," she says. "It allowed us to fund the development program that's driving our growth now."

Sitting in the Crown Estate's office off Regent Street, investment director Paul Clark spreads out a map of central London with a sea of pink and blue blocks delineating the portfolio's holdings. He points to St. James's, where the Crown Estate took another bold step in 2013 by setting up a £320 million joint venture with Oxford Properties, a Canadian real estate firm, to develop 260,000 square feet of office, retail, and restaurant space near Regent Street. That, together with more Regent Street redevelopments, means the Crown Estate will be delivering half of all new office space in the West End over the next year. "It's the Crown Estate's most significant development pipeline in its history," Clark says.

Paul Clark, the Crown Estate's investment director, in Osprey, a store in London's St. James's district

He has little doubt he'll be able to find tenants, given demand from hedge funds and other businesses clamoring for office space. The West End is the most expensive place in the world to rent an office, with occupancy costs per square meter of more than £1,715 last year, according to real estate services firm Cushman & Wakefield. Even so, Clark says the Crown Estate has pushed the pause button on new acquisitions because of concerns about London real estate prices. "We're more motivated sellers than buyers," he says.

As the Crown Estate disposes of noncore assets, it's running into opposition. Last year, it began selling 200 rural homes spread across the country, offering tenants the right to buy. Those who couldn't raise financing were evicted, some with as little as two months' notice, says Ross Henley, a local councilor in Somerset, where about 20 properties were sold last year. "You'd expect the Crown Estate to act differently to other property companies," he says. Clark says, "We understand this may have been difficult news for tenants so we provided extended notice periods of up to six months."

The Crown Estate's portfolio will soon shrink. Under government plans to devolve more powers to Scotland, the Crown Estate's £261.5 million worth of Scottish assets will eventually be managed independently by authorities in Edinburgh. Those assets—including offshore wind farms, salmon-fishing rights, and the Glenlivet estate, maker of the famed whisky—will remain technically owned by the crown, but the revenue (£14.6 million last year) will most likely remain in Edinburgh's hands.

Given the political sensitivities of such a move, Scottish First Minister Nicola Sturgeon felt obliged to deny reports in June that her government planned to cut funding to the queen once the Crown Estate assets were devolved. Nimmo and Clark declined to comment on Scotland, saying the terms of devolution are firmly in the hands of politicians.

Whatever happens in Scotland, the queen is in no danger of penury. Besides, Elizabeth II isn't your average shareholder focused on quarterly returns. Like many before her, she and her successors can afford to take the long view. BM

BLOOMBERG TIPS

Crown Estate Alerts

For news on the Crown Estate, type **1577Z LN <Equity> CN <Go>** on the Bloomberg Professional service. To set up an alert that will notify you when a new article that mentions the Crown Estate appears, click on the Display & Edit button on the red tool bar and select Set Alert Delivery. In the Delivery Options window that appears, click on the box to the left of Deliver to Alert Catcher. Next, click on the box to the left of Bring Catcher to Front so that a check mark appears. Click on the Close button. The Bloomberg Alert Catcher (BLRT) function lets you incorporate a component into your Launchpad view that consolidates all of your pricing, news, and economic alerts. Type **BLRT <Go>**. JON ASMUNDSSON

PHOTOGRAPHS BY LAUREN FLEISHMAN

A industrial **railway** is used to transport wine down into an **old mine**, where it's stored in **ancient casks** or by the **case**. In vaults decorated with World War II–era **graffiti**, Octavian looks after wine worth more than £1 billion. In recent years, once-soaring prices of investment-grade vintages have slowed, but that hasn't hurt Octavian: The wine is staying underground longer as clients wait for another surge.

DOWN IN THE WINE BUNKER

CAVERNOUS VAULTS OF BORDEAUX AND BURGUNDY VINTAGES SIT IN AN OLD MUNITIONS DUMP DEEP BELOW GENTLY ROLLING ENGLISH FARMLAND.

BY STEPHANIE BAKER

YOU'D NEVER KNOW IT WAS THERE. Past a field dotted with hay bales, my driver turns up a small road that seems to go nowhere. When we reach a metal gate, a security guard comes out to greet me. Then he hands me a gas mask that looks like it should be in a war museum.

That's not as crazy as it sounds.

I'm about to go 30 meters (100 feet) below rolling farmland outside Bath, England, to see more than £1 billion ($1.5 billion) worth of fine wine stored in an old mine that during World War II was a munitions dump. It's been stashed there by clients ranging from Christie's and Sotheby's to financier Guy Hands.

At 93,000 square meters (1 million square feet)—think 22 football fields—Octavian's Corsham Cellars is one of the largest storage facilities for fine wine in Europe. In the 1800s, it was an underground quarry that produced the honey-colored stone used to build the grand homes in nearby Bath. In the late 1930s, the U.K. Ministry of Defense took it over. Twenty-five years ago, it was turned into a wine vault, but technically it remains a mine, hence the gas mask requirement.

Aboveground, behind a security hut, a blue sign is emblazoned with Octavian's logo: "Our world is fine wine." From inside a nondescript green warehouse, a tiny industrial train transports the cosseted wine to the vaults, but the only way in for mere mortals is to walk 157 steps down a dimly lit mine shaft.

As we descend, I'm hit by cool, humid air, a first hint of the care taken with the wine. In the vaults, the temperature is naturally about 13 degrees Celsius (55 degrees Fahrenheit), the ideal temperature for storing wine. Humidity is kept at 80 percent, plus or minus 5, and checked hourly. Filters cover light fixtures to reduce damage from ultraviolet radiation.

There are motion detectors at the mine entrance; it would require an *Ocean's Eleven*–type operation for thieves to haul anything out of here.

Wooden cases of awe-inspiring wine—a 1996 Château Latour here, a 2008 Château Lafite Rothschild there—are stacked high. Vincent O'Brien, the Irish-born Octavian managing director who's my guide, says staff stood in amazement when a case of 1945 Château Lafite arrived earlier this year. Somewhere down here, dispersed among different chambers to reduce risk, are 1,000 cases or bottles dating from 1775 to 1800. "Are you getting the feeling we're full?" O'Brien, 45, asks.

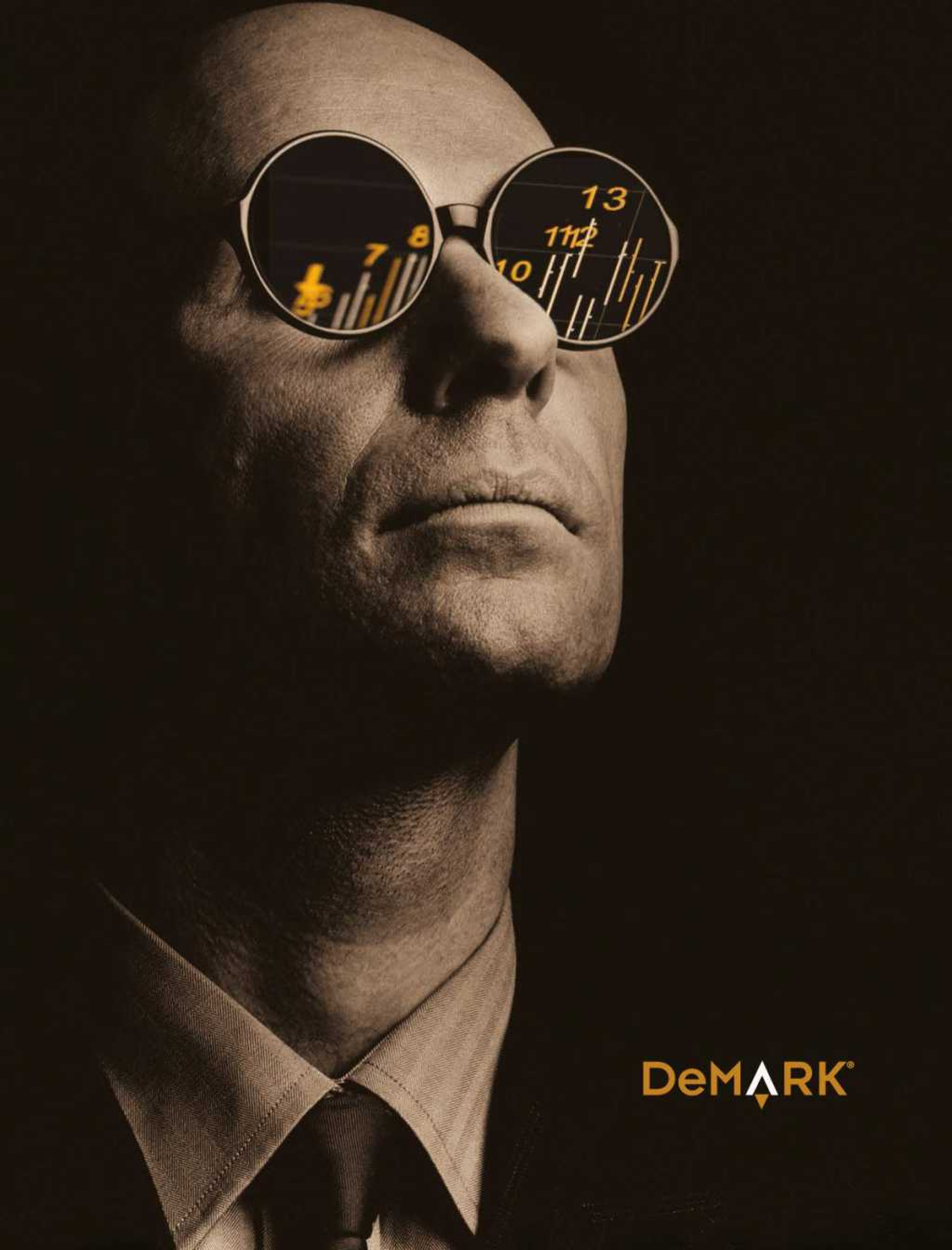
Almost. The number of cases stored by Octavian has swelled 35 percent during the past four years. In the wake of the financial crisis, wine investing became de rigueur as money rushed toward alternative assets. Standout Bordeaux vintages from 2009 and 2010 sent wine investors into a tizzy. Until 2011, 95 percent of the stored wine was from Bordeaux. Since the Bordeaux bull market ended in 2011, the Liv-ex Fine Wine 100 Index, which tracks prices for the 100 most sought-after wines, has fallen by a third—and so has appetite for Bordeaux.

But that hasn't hurt Octavian. Investors such as Hands are sitting on their collections. Hands recalls hauling a 1976 bottle of Salon Le Mesnil Champagne to Whistler, Canada, at Christmastime last year to celebrate the anniversary of meeting his wife at a New Year's party. Having bought the bottle for £100 in 1999, he made the mistake of looking up the price now: £1,800. He ended up taking it back home. "I just thought, I can't drink it!" he remembers. "It seems slightly sad in a way."

The average time a case stays underground has increased to 8½ years, up from about six in 2011. Local residents shot down plans to build an extra warehouse directly above the mine to deal with increased demand. Instead, Octavian opened a high-tech spillover facility aboveground about 8 kilometers (5 miles) away in Colerne. At its two locations, Octavian houses £1.5 billion worth of wine, O'Brien says.

These days, clients are demanding photographs to document labels and the condition of wooden cases. A dent in the wood can lower values as much as 15 percent, O'Brien says. Octavian is in the process of building a new underground photo studio to churn out 6,000 images a month, up from about 500 in 2012. "We've got a different type of customer coming in the last couple of years," he says. "They're looking at it more from an investment angle."

After an hour underground, I ask to be taken to the most expensive case in the vaults. "We'll take you to the DRCs," O'Brien says. No, he's not talking about the Democratic Republic of Congo but Domaine de la Romanée-Conti, which produces some of the most expensive Burgundies in the world. "We've got a huge collection!" he says. After a half-hour search for a £120,000 case of 1985 DRC, I give up. I'm freezing, and I think I need a drink. BM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BY YOOLIM LEE

PIECES OF HISTORY

IN HIGH-SECURITY LOCATIONS AROUND HONG KONG, ALAN CHUANG STORES ONE OF THE WORLD'S FOREMOST COLLECTIONS OF IMPERIAL CHINESE PORCELAIN.

PHOTOGRAPH BY CHAD INGRAHAM

Chuang holds a bowl with a peach-and-bat design; opposite page, a **Goddess of Mercy** porcelain figure.

BILLIONAIRE ALAN CHUANG'S hilltop residence on Victoria Peak is impeccably decorated with flowers, antique Chinese furniture made of prized *huanghuali* hardwood, exquisite chandeliers from France, and windows offering breathtaking views of Hong Kong.

But the really extraordinary feature of his HK$2 billion ($260 million) mansion lies behind a nondescript door in the basement: a small part of his collection of some 300 rare and ancient porcelain pieces, which he's showing for the first time to a journalist. His hoard—most of which is stored in carefully guarded locations around Hong Kong—includes spectacular ceramic art from the Yuan (1271–1368), Ming (1368–1644), and Qing (1644–1911) dynasties. "Mr. Chuang is one of the world's top collectors of Chinese imperial porcelain," says Jason Tse, a Hong Kong–based former director of Chinese ceramics at Sotheby's. "What really sets him apart is the refinement of his collection. He goes for quality rather than quantity."

For the 67-year-old chairman of investment holding company Chuang's Consortium International,

the cream-colored basement room is a warmly lit sanctuary he shares with a few friends such as Fidelity Investments Chairman Edward C. "Ned" Johnson III. Chuang says Johnson once came here to take a look at an antique chair in Chuang's collection of Chinese furniture. Johnson, who has a similar chair, wanted to see Chuang's before sending his own off for repairs.

One piece in Chuang's collection is a famous Ming-era porcelain cup that, because of its ornamentation, is known as a "chicken cup." Only a few people are aware that Chuang owns one of the few Chenghua chicken cups that exist outside of museums. In April 2014, billionaire businessman Liu Yiqian paid a record $36 million for a chicken cup, making international headlines.

Chuang is especially fond of a rare 18th-century Yongzheng porcelain bowl with a *famille rose* peach-and-bat (the flying kind, symbol of good fortune) design. He says his bowl is believed to be the only one decorated with five peaches on the exterior (symbolizing blessings of longevity). In October, Sotheby's estimated the value of the bowl at HK$40 million to HK$60 million. Not that Chuang would ever sell it. He says he doesn't collect Chinese ceramics as an investment. "It's a hobby," he says. "Simple as that."

The mustachioed Chuang can barely contain his enthusiasm for the stunning possessions displayed on antique tables and in a custom-made cabinet. As he admires a Guanyin (Goddess of Mercy), who was worshiped by Yuan dynasty emperors, he says, "She has brought a lot of good fortune." He bought the piece, about the size of an infant, for about £2 million ($3.1 million) from a London-based dealer in 2005.

Chuang estimates the cost of his acquisitions at HK$2 billion; he says experts now value his collection at HK$10 billion to HK$20 billion. Chuang says only Hong Kong property has fared better over the four decades he's been collecting.

During that time, China's economy went from being one of the world's poorest to the second largest. In recent years, China's economic growth has slowed, but it will "eventually emerge stronger," Chuang says, and when it does, there will be more and more wealthy Chinese chasing a limited number of collectibles. "In the future, there will be another 100 entrepreneurs like Jack Ma in China," he says of the founder of Alibaba Group, one of mainland China's richest people. "And they will want to own a piece of their history."

In 1975, when he started collecting Chinese ceramics at the age of 27, Chuang worked as a quality-control officer at his father's manufacturing company, earning HK$750 a month and learning the business from the ground up. He took over the family firm in 1993 and successfully diversified it into an investment empire. Now that his four grown children are working in the family business, Chuang travels the world (he has three yachts and a private jet), does some scuba diving and sailing, and, of course, builds his collection.

When the planned M+ museum in the West Kowloon Cultural District opens in 2018, Chuang says, he intends to lend part of his collection to the Hong Kong government for exhibition. For the time being, short of visiting Chuang in his basement, the only way to experience any of his treasures is to peruse a beautifully printed, 408-page catalog that costs $600 if you can find one. By printing only 2,000 copies of *The Alan Chuang Collection of Chinese Porcelain* in 2009, Chuang made sure that the book itself would be a work of art. The catalog covers only 121 of his pieces. Another volume, Chuang says, is in the works. BM

A ***falangcai* cup**, above, is decorated with bamboo and roses; below, a so-called **moon flask** in Chuang's collection.

ASSISTING THE MOST VULNERABLE

DOCTORS WITHOUT BORDERS IS ABLE TO RESPOND QUICKLY TO CRISES AROUND THE WORLD, THANKS TO CHARITABLE GIVING

When Ebola broke out in West Africa in March 2014, thousands of people became sick—and many more were panic-stricken. How many were going to die? And what could be done to stop it from spreading? But even before the virus made headlines, Doctors Without Borders/Médecins Sans Frontières (MSF) professionals were already on the ground and hard at work, and they were able to staff up with additional assistance. All told, more than 5,000 staff members have worked in Guinea, Liberia and Sierra Leone, and were able to successfully treat more than 2,300 patients with Ebola. MSF's early response has also been crucial in providing effective aid in many other cases, like the 2010 earthquake in Haiti and the current Syrian crisis.

Perhaps the most important factor in MSF's ability to act quickly is that a majority of donors give in an unrestricted fashion, and the response to medical needs is never based on political, economic or religious interests. "Our team doesn't have to wait for specific earmarked funding, and that allows us to make choices on where we operate based on need," says Jason Cone, Executive Director of MSF-USA. "These factors really help in terms of responding to a crisis faster."

Worldwide, the organization is 90 percent funded by individual charitable donations (100 percent in the U.S.), and 88 cents of every dollar goes directly to program services. Those funds are spread to nearly 70 countries around the world—half of which are in conflict or post-conflict situations—to minimize disease outbreaks, address trauma situations, assist during natural disasters and more. MSF doctors are routinely challenged with seemingly impossible tasks, including entering conflict zones, bringing temperature-sensitive vaccines through the Congo on 100-degree days and reaching isolated areas (sometimes by way of canoe—upstream).

Hundreds of thousands of Americans support Doctors Without Borders, and in 2015, for the third year in a row, MSF was voted the International Aid Nonprofit Brand of the Year in the Harris Poll EquiTrend Study. "Donors know that we're going to be addressing the most critical crises that are facing people today," says Cone. "They know the principles of independence, impartiality and medical ethics push us to make sure we provide the best possible care to people who don't have anywhere else to turn."

MSF doctors doing rounds in the intensive care ward of Baraka Hospital, South Kivu, DRC. Bottom: A mobile medical team visits families in Quibdó, Colombia.

Doctors Without Borders also has a history of transparency. Upon receiving an exceptional amount of earmarked donations that it would not have been able to spend after the 2004 Indian Ocean tsunami, MSF made the unprecedented offer to derestrict donations or, in the worst case, to return the previously accepted funds. (Many donors instead chose to derestrict their gifts). MSF also frequently publishes case-specific reports that assess an aid effort's strengths and weaknesses.

Although planning ahead for a natural disaster or outbreak seems daunting, Doctors Without Borders is on the case. Multiple facilities are stocked with targeted emergency kits that can be on a cargo plane in 24 hours or less. In 1987 the organization set up Epicentre, in Paris, which in 1996 became a World Health Organization Collaborating Centre for Research in Epidemiology and Response to Emerging Diseases. Here, experts are able to map outbreaks to fully understand how they are developing.

Additionally, MSF strategizes long-term by working to improve access to medicines. "A lot of the diseases our doctors deal with don't have good treatments available; they're either too expensive or they don't exist," Cone says. "We do a lot of international campaigning to ensure that we can get access to, say, the best HIV medicines or better treatments for drug-resistant tuberculosis patients." And with the help of donations, their tireless work will continue. — *Lisa Freedman*

THE FOSSIL

CLIFF HARTONO, AN AVID SURFER AND EX-BANKER, HAS CREATED A NICHE MARKET IN ... PREHISTORIC RELICS.

FOR CLIFF HARTONO, it was a surreal moment. In October 2012, he was standing on a Wyoming hilltop, a hotbed of fossil discoveries. Dotted with Angus cattle, horses, and deer, the landscape was a world away from London's Canary Wharf, where only a month earlier, surrounded by six computer screens, he had been selling exchange-traded funds at Credit Suisse Group.

Now here he was, at 27, on an Indiana Jones–style expedition with a bunch of American fossil hunters in cowboy hats. "Hey, kid, is this the first time you held a sledgehammer?" asked one of them, his body adorned by several fossil-shaped tattoos. Hartono remembers replying, "The heaviest thing I lifted last month was a computer mouse."

The rest, as they say, is prehistory. Hartono and the fossil diggers hit it off, and he was on his way to becoming a collector and dealer—a dream born of wandering through London's Natural History Museum. Wyoming remains a chief source, along with Germany, where he was born and raised until the age of 7 by his ethnic-Chinese Indonesian parents.

From his current base in Singapore, where he's a managing director at Three Arrows Capital, Hartono has created a new niche market in fossils as art and chic home decor. His haul—including a fossilized marine reptile, a Jurassic-age ichthyosaur, that he sold for about S$200,000 ($140,000)—ranges in age from 20 million to 230 million years. A dedicated surfer, Hartono pursues his business with relentless gusto, citing his favorite quote from the late surfing legend Mark Foo: "If you want to ride the ultimate wave, you have to be willing to pay the ultimate price."

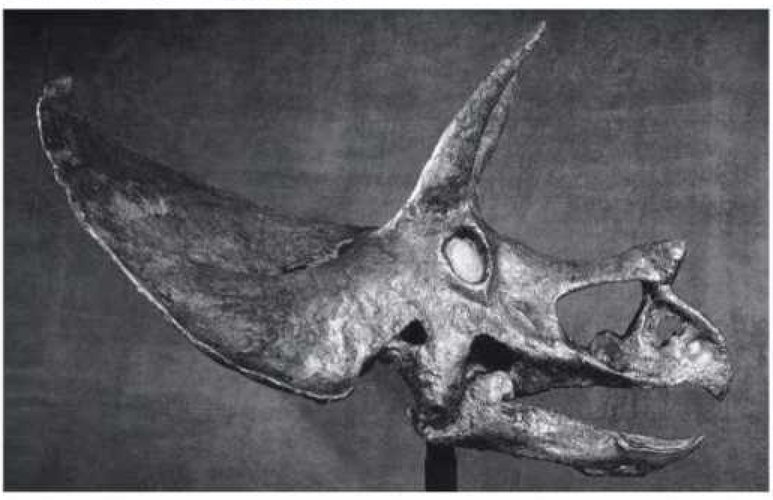
Private fossil collectors have been around for ages. But the 1993 release of *Jurassic Park* sparked a fossil rush, says Michael Pittman, head of the Vertebrate Paleontology Laboratory at the University of Hong Kong. In New York in 1997, Sotheby's auctioned off a dinosaur fossil known as Tyrannosaurus Sue that was snapped up by Chicago's Field Museum of Natural History for a record $8.4 million. Then, in 2007, actor Nicolas Cage outbid Leonardo DiCaprio for a *T. rex* skull at $276,000.

In May, Evolved Ltd., a Hong Kong dealer, offered to sell a gigantic triceratops skull for $1.8 million. There's no record whether the specimen was sold, and Evolved didn't respond to e-mailed questions. "There are many new collectors in Asia now," says Mark Norell, chairman and curator of paleontology at the American Museum of Natural History in New York, who has led numerous research expeditions in the Gobi Desert in Mongolia.

For people like Norell and Pittman, that's not necessarily good news. Fossils locked away in private collections may never be studied by scientists or seen by the public. Then there's the question of patrimony: To whom do the fossils really belong? While exporting fossils is banned in many countries, including Brazil, China, and Mongolia, a black market has flourished. Fossils found on private land in the U.S. can be sold to anyone anywhere.

Hartono says commercial diggers can afford excavation projects that museums and universities can't, spurring new discoveries. "Undiscovered fossils will just crumble to dust," he says. Norell also points to one reassuring trend. "Many private collectors have given important fossils to museums," he says. Hartono says regulations are necessary, but overregulation has unintended consequences. "It's about striking a balance," he says. For this reason, he sticks to Wyoming and Germany, where the laws are clear.

Hartono says he's surprised by the lack of younger competitors, even among the scientifically inclined. "It's a bit of an older people's game," he says. "If you were a geek growing up in the '80s or '90s, you went into science or paleontology. Nowadays, you learn coding." BM



Hartono, opposite page, with a large palm fossil; this **triceratops skull**, lower left, offered by a Hong Kong dealer, had a price tag of $1.8 million; the ex-banker on his **Wyoming dig** in 2012

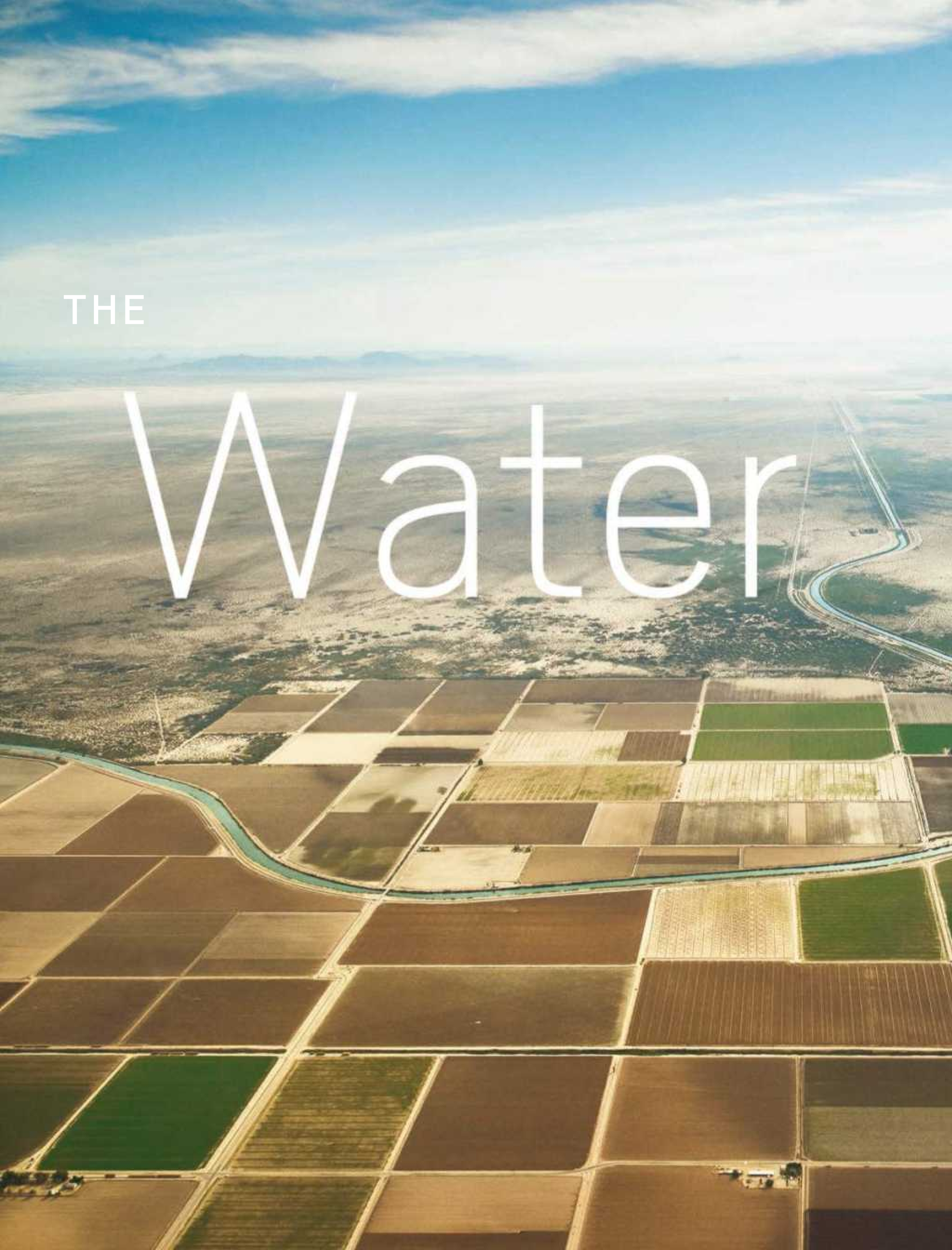
FROM TOP: COURTESY OF HARTONO; COURTESY OF EVOLVED LTD.

HUNTER

BY YOOLIM LEE

PHOTOGRAPH BY STEFEN CHOW

THE Water



Barons

IRRIGATION CANALS STILL FLOW FULL IN THE IMPERIAL VALLEY, AND THE FARMERS KNOW CALIFORNIA'S THIRSTY CITIES WILL SOMEDAY COME TO CLAIM THAT TREASURE.

BY JOHN LIPPERT

PHOTOGRAPHS BY SPENCER LOWELL

"You've been to the Grand Canyon, right?" Craig Elmore asks as he pulls his Chevrolet Tahoe to the edge of a field plowed into tidy, straight-as-an-arrow furrows, a section of the 6,000 acres that he farms—land his father and grandfather farmed before him. "Basically, right now, you're driving over the Grand Canyon."

Elmore speaks of the Imperial Valley with obvious pride, right down to the origins of the dirt, carried here over millions of years by the Colorado River as it carved the Grand Canyon ever deeper. These fields turn lush green every fall with the lettuce, broccoli, carrots, melons, and other fruits and vegetables that fill U.S. supermarkets all winter. It's a scorching 109 degrees Fahrenheit (43 degrees Celsius) outside his air-conditioned SUV on this August day, but from November through March, temperatures moderate, and this small section of the Sonoran Desert in California's southeast corner becomes a perfect spot to grow food.

Perfect, if you have water. And the farmers of the Imperial Valley have a wealth of water. A handful of landowners—about 500 farms in all—control the rights to 3.1 million acre-feet a year from the Colorado River. That's equal to about a third of the water used by California's cities, with 37 million people, where a four-year drought means neighbors report you if your lawn is green. Or, to measure another way, it's half again as much water as Governor Jerry Brown aims to save under his April executive order, which set a February 2016 deadline for a 25 percent reduction in urban use. An acre-foot is about 326,000 gallons (1.2 million liters) and can supply the household needs of about 10 people for a year, though actual water use rates vary widely.

Dates are among the crops **Craig Elmore**, below left, grows. The levee on his land was built by his grandfather and used to mark the edge of the Salton Sea.

A crew plants cabbage and kale on **Jack Vessey**'s farm, working before sunup to beat the late-summer heat.

Imperial Valley farmers know their water is precious and understand that to preserve a way of life that runs back a century they have to grapple with the needs of a drought-stricken state. Politicians, regulators, and lawyers have squeezed the valley before to get at its water. In 2003, the Imperial Irrigation District, under pressure from Senator Dianne Feinstein and other federal and state officials, controversially agreed to sell as much as 280,000 acre-feet a year to San Diego. Farmers here still discuss that episode at length, and emotions are still raw, because they believe similar water transfers are likely in the valley's future.

With so much water controlled by so few people, the farmers are a target for criticism. "The Imperial Valley belongs to a plutocracy of corporate agricultural and real estate interests that hoard water," says Carolee Krieger, president of the California Water Impact Network, a nonprofit group in Santa Barbara. "They're fighting to control water that California needs to preserve its environment."

Bennett Raley, who was the U.S. Department of the Interior's top water official when the San Diego agreement was negotiated, bluntly warned the farmers not to fool themselves into thinking they could block such transfers. "The economic pressures associated with urban growth in the West are extremely strong," he said at a community forum in the valley in 2002, according to press accounts. Since that time, the pressures have only ratcheted up, as severe drought has drained the state's reservoirs. And the issues California faces are being seen worldwide as the climate warms and population rises. From São Paulo to Shanghai, politicians and citizens alike worry and fight over who will get limited water resources.

In the Imperial Valley, some farmers are getting used to the idea, central to the 2003 agreement, that they can sell water and use the proceeds to pay for conservation measures that free up more water to sell—potentially a virtuous cycle. Some remain defiant.

Elmore, whose grandfather John arrived in the valley from Missouri in 1908, says he spends about $600 an acre to level his fields and dig ditches for maximum irrigation efficiency. "People think transferring water out of the valley is a great sin," he says. "Wasting water can be an even greater sin." The neatly prepared field he's inspecting is perfectly level—he uses lasers

to make sure—and slightly lower than adjacent sections so water moves by gravity at an optimal speed. He uses electronic sensors that measure the flow of moisture in the soil and says he has cut his water use by at least 10 percent.

Another Imperial Valley farmer, Ronnie Leimgruber, whose grandfather immigrated here from Switzerland in 1918, is skeptical that anyone else deserves his water. "Do we really need 127 golf courses in Palm Springs for Obama and the Hollywood elite?" He raises alfalfa, the most water-intensive crop that's grown in California, but has taken steps to cut his irrigation use.

Jack Vessey, whose ancestors arrived during the Depression, joined a lawsuit that tried to block the 2003 San Diego agreement and failed in the end. He touts the importance of the fresh winter produce the valley's water makes possible. "We serve 1.2 billion salads a year from my farm," he says. "What are we going to do, take this

Vessey checks on a field of red cabbage, left. **Ronnie Leimgruber** works a gate in an irrigation ditch that can also be operated remotely.

away and feed our kids candy bars?"

Mike Morgan, Craig Elmore's cousin, who farms another section of the property their grandfather assembled decades ago, led the landowners' court fight against the San Diego water sale. After his long, losing legal battle, he's convinced that powerful forces are arrayed against the valley's landowners and determined to take more water. "The only defense is to wake up every day recognizing that this threat exists and do everything you can to justify your use of water."

THE MOST BASIC PRINCIPLE GOVERNing water use in the western U.S. is this: first in time, first in right. That's why Imperial Valley farmers have so much water. They arrived early, building the first canal to withdraw Colorado River water and ship it to the valley in 1901. When John Elmore came to the valley more than a century ago, he worked for a time digging canals with something called a Fresno Scraper, an innovative tool for its era, with a blade something like that of a modern bulldozer but pulled by mules. In the 1930s, the federal government built the All-American Canal, which flows along the Mexican border from the Colorado River about 80 miles (130 kilometers) to the Imperial Valley. It's the highest-capacity irrigation canal in the world (and still full).

Elsewhere in California, many conflicting water rights have never been adjudicated, but the Imperial Valley's allotment has been defined and affirmed in court. Krieger of the Water Impact Network says all the claims on Colorado River water actually exceed the entire flow and should be re-examined. She wants government regulators to audit these allotments. But for now the valley is in a privileged position. If the U.S. Bureau of Reclamation declares the first-ever shortage of Colorado River supplies in 2017, as agency officials say could happen, Arizona would take an 11 percent cut and the Imperial Valley wouldn't lose a drop.

The federal government charges nothing for the water. The Imperial Irrigation District, a public agency, maintains the canals and other infrastructure and charges $20 an acre-foot to cover costs. San Diego, by contrast, pays $624 an acre-foot, according to a pricing formula in the 2003 agreement. These days, any water available at $624 an acre-foot would be snapped up fast.

State and federal agencies that oversee California rivers and reservoirs have reduced allocations to farms in the Central Valley, the much larger agricultural district in the middle of the state, in some cases to zero. Farmers desperate to replace lost supplies are drilling new wells and pumping so much groundwater that aquifers are being drained and the land is sinking. The snowpack in the Sierra Nevada mountains, which feeds most existing reservoirs, is at a 500-year low and may never fully recover as the climate warms. Meteorologists caution that even the current El Niño weather pattern, characterized by warmer-than-normal sea-surface temperatures in a section of the Pacific Ocean, may do little to alleviate the drought, even as it pushes moisture-laden storms toward California. If precipitation comes as rain instead of snow, or all at once, the help to depleted reservoirs may be minimal.

In the Imperial Valley, there have been no supply cuts, and farmers' concerns are longer term. The key threat to their allotment, the counterbalance to those first-in-time rights, is a requirement in a 1928 amendment to California's constitution and in federal law that water be used reasonably and beneficially. That was the lever that opened the door to the San Diego water deal and another agreement, 14 years earlier, that sends a smaller amount of water to Los Angeles. It's a doctrine officials can invoke to challenge wasteful practices, such as sprinklered lawns in cities or flood irrigation on desert farmland.

"Agriculture accounts for 2 percent of the state's gross domestic product and 80 percent of the water consumed by humans," says Stephen Levy, director of the Center for Continuing Study of the California Economy in Palo Alto. So there's a tension between city dwellers and farmers, Levy says. "Who do you think's going to win that fight?" His view is that urban areas should and will get the water they need if it's being wasted on the farms—a stance many politicians and regulators echo.

Felicia Marcus, as head of the State Water Resources Control Board, has delivered a lot of bad news to California's farmers in the past year, notifying holders of water rights more than a century old that they have to stop withdrawing supplies from low-running rivers. But she's also pushing cities to conserve. "Agriculture is important," she says, more important than the 2-percent-of-GDP figure might suggest. "It's the lion's share of the economy for a huge area of the state." She's wary of playing cities off against farm communities. "It's not a competition. We need both. And both can be more efficient and resilient."

THE FIRST REAL CRACK IN THE Imperial Valley's water rights started, oddly enough, with one of the clans that has the deepest roots in the place—Craig Elmore's family. In 1980, the Elmores filed a complaint accusing their neighbors of wasting water and, as a result, causing flooding on their land.

Some background is necessary to understand how this came to pass. The farms here stretch about 35 miles from east to west and the same distance from the Mexico border on the south to the Salton Sea, a salty inland lake with no outlet, to the north. John Elmore assembled his tract along the edge of the deep-blue Salton Sea.

Craig Elmore explains that his grandfather bought some of this land from the Southern Pacific railroad and other parcels from early homesteaders. Maps still mark a spot nearby as Elmore Desert Ranch. "A lot of people called this Elmore's Folly," he says, but it worked out fine. John Elmore ended up wealthy enough to retire to a beachfront estate in San Clemente on the Pacific Ocean, where he became one of the state's biggest thoroughbred horse breeders. Richard Nixon was a neighbor.

Although the Imperial Valley looks pancake flat, it actually slopes down ever so gently to the north. Irrigation canals cut the landscape into neat squares and rectangles in quarter-mile increments, with water flowing by gravity from the All-American Canal in the south to every section. Water is such a part of the landscape that in decades past teenagers would sometimes water-ski on the canals, pulled by a pickup truck driving along the edge. There's also an unusual drain network built beneath the fields because Colorado River water contains significant trace amounts of salt that must be flushed from the soil. The drainage pipes flow south to north as well, and the runoff ends up in the Salton Sea.

The Elmores started their case after tropical storms from the Pacific roared through in 1976 and 1977, dumping a deluge on the Imperial Valley each time. The Salton Sea rose and kept rising, threatening the dikes that protect their land, Elmore says. The complaint, before the state water board, blamed the sloppy irrigation habits of farmers in the valley.

"If you were done irrigating at night, you might send someone to turn it off the next day," Elmore says, recalling how water was taken for granted in that era. "You didn't have to be a good steward."

The case wound on for years, and it grew to involve Los Angeles and the Metropolitan Water District of Southern California, an umbrella utility that represents municipalities in the southern part of the state and is constantly on the hunt for new supplies.

Irrigation water from the Colorado River makes winter farming lucrative in a desert region.

Irrigated farmland covers 450,000 acres of California's **Imperial Valley**.

The board eventually ruled that Imperial Valley farmers were wasting water—violating the reasonable and beneficial standard. The Imperial Irrigation District had failed to line enough of its canals with cement to prevent leaks. It hadn't built enough reservoirs to capture storm surges. The end result was an agreement signed in 1989 that the irrigation agency, rather than forfeit water, would send 160,110 acre-feet a year to Los Angeles in return for payments that would fund irrigation improvements in the valley.

Elmore says he never doubted his family was right. He also says that, to this day, there are farmers who won't speak to him if they see him on the street. Elmore lives in a brown, three-bedroom ranch house in Brawley, a town of 25,000 in the heart of the valley. His mother, sister, uncle, and two cousins live within a few blocks of his house. Brawley is where Cesar Chavez of the United Farm Workers union led a violence-scarred strike in 1979, seeking higher wages and benefits for fieldworkers. The population of Imperial County includes many farmworkers with strong ties to laborers who commute across the border every day from Mexico, and it's poor. A third of the children live in poverty.

The valley's farm owners, though, do well. Many have decamped to the coast, as John Elmore did in his day, and lease out their property. More than half the people who own land in the valley today live elsewhere. Craig Elmore is staying put. He's 58 years old but looks 20 years older after a ruptured stomach ulcer five years ago landed him in intensive care for 102 days, and he farms full time. The San Clemente property was sold after his grandfather died in 1976. "Farming is almost like a disease," Elmore says. "It's in our blood."

THE EVENTS LEADING UP TO THE SAN Diego water deal got rolling in 2000. Arizona, with fast urban growth boosting water needs, for the first time used its full Colorado River allotment under a multistate agreement. The Imperial Valley had routinely captured surplus water that Arizona water supply agencies had let flow by.

Now, the Interior Department demanded the valley live within its allotment. As negotiations dragged on, the agency lost patience, made a unilateral finding that the irrigation district was wasting water, and threatened to withhold 200,000 acre-feet a year. Senator Feinstein, a Democrat, took the cities' side and warned the Imperial Irrigation District in a 2002 letter that the Interior Department could take the water without any compensation. "Time is rapidly running out," she wrote.

The agency's directors capitulated. In 2003, by a 3-to-2 vote, they agreed to sell up to 280,000 acre-feet a year to San Diego. The district also agreed to pump an average 53,000 acre-feet annually for 15 years into the Salton Sea, which by this time was shrinking, not flooding, as changing practices reduced the farm runoff reaching the lake.

Once a destination for recreation, with resorts along its shores in the 1950s, the Salton Sea has become a thorny issue in any water discussion. Its gradual disappearance threatens wildlife—and people. The lake bed that's exposed as the shoreline recedes is laced with pesticides and fertilizers. When it turns to dust and gets kicked up by the wind, it can be hazardous to breathe. In the valley, children's emergency room visits for asthma occur at twice the rate for California as a whole.

Upon approval of the San Diego deal, bureaucratically known as the Quantification Settlement Agreement, the valley exploded with recriminations and litigation. Voters swept from office the directors who supported the deal. Imperial County sued

A farm in the **Imperial Valley** is watered with sprinklers, which are less efficient than drip irrigation.

the irrigation district for failing to do more to protect the Salton Sea. Morgan, Vessey, and other landowners started their suit to block the agreement in federal court. They argued, unsuccessfully, that the irrigation agency lacked authority to sell water without a vote by the farmers who own the land to which the water rights are attached.

Vessey is still unhappy about the outcome. He complains that the $624 an acre-foot that San Diego pays is half of the going rate in the Central Valley. He hates fallowing land, which is part of the plan to supply water for the Salton Sea. Like other valley farmers, though, he adopts conservation measures.

In mid-August, when it's time to plant 10 acres in red cabbage, Vessey's crew of 18 people moves through the field on a new mechanized planter. Workers riding on the back drop seedlings into chutes so robot arms, rattling and clacking, can thrust them one at a time into the dirt. The work is done at night to escape the daytime heat. One man runs behind the machine with a measuring rod to make sure the seedlings are exactly 15½ inches apart, which is ideal for efficient irrigation. Vessey is also squeezing the rows together and using sprinklers instead of flood irrigation. He's getting 20 percent more produce with 25 percent less water.

The Quantification Settlement Agreement is succeeding with some of its goals. Jennifer Gimbel, the Interior Department's chief water officer, says it has created a legal framework for farm-to-city transfers of water that could be used as a model elsewhere in the West.

Where it's failing, so far, is the Salton Sea.

This unique body of water was created by accident in 1905, when the Colorado River overwhelmed the irrigation system then being built, allowing the entire flow of the river to rush down into the valley, flooding what had been a dry lake bed. But it has become an important wildlife habitat. The sea is stocked with saltwater fish and even has barnacles, which probably arrived from the ocean on floatplanes. It's a haven for 430 species of migrating birds.

The 53,000 acre-feet a year that's being pumped in to stabilize the Salton Sea is supposed to end in 2018. In 30 years, the surface could drop 25 feet, says Michael Cohen, a researcher at the Pacific Institute in Boulder, Colorado. That could result in an additional 100 tons of pesticide-laden dust going into the air each day unless work begins soon on mitigation measures such as creating shallow wetlands where the shoreline recedes.

Imperial Irrigation District general manager Kevin Kelley says the state has failed

The **Salton Sea**, visited by some 430 bird species, is shrinking as irrigation practices in the valley change.

to live up to commitments it made to fix the Salton Sea. The agency's directors have notified the state that they may sue, seeking court permission to cut off San Diego's water. "We can't keep transferring water if it means turning the Salton Sea into an environmental ghetto," he says.

If the Salton Sea is addressed, even Kelley won't rule out more water transfers in the years ahead. He says the valley is getting used to the new era of conservation. "It may be that, here, the heavy emotional lift is behind us."

CRAIG ELMORE SAYS THE BASIC IDEA of more conservation and more water sales to cities gets support from most of his neighbors these days—a complete change in attitude since the 1980s, when his family pursued its case. "I'd much rather come to an agreement that's good for all parties than have the water just taken," he says.

That's a threat that hangs over the Imperial Valley. Robert Glennon, an Arizona State University law professor, says cheap water in the valley to this day results in egregious waste—such as growing alfalfa in the desert in the summer—that offends the principle that water be used beneficially. Eliminating just a few water-hogging practices could provide urban California with significant relief. "If farmers try to play ostrich on this and bury their heads in the sand," he says, "they'll be overwhelmed by the political and economic power of cities that need water."

It's not clear that any agency has the right to simply take water, but it's also hard to predict what might happen if California's drought persists.

Jeff Kightlinger is head of the Metropolitan Water District of Southern California. He expects his backup reservoirs to have about 780,000 acre-feet of water at year's end, down from 2.7 million acre-feet in 2012. With 10 years' time, it might be possible to resolve a lot of protests and prepare for another water deal, he says. But California may not have that much time. "If we have four more years of drought, all kinds of things will be on the table that are not on the table yet." BM

BLOOMBERG TIPS

Scoring Water Funds

You can use the Fund Screening (FSRC) function to search for funds that focus on water-related investments. Type **FSRC <Go>** on the Bloomberg Professional service. Tab in to the field, enter *NATURAL RESOURCES,* and click on the first match. Next, click on Fund Description in the Universe Criteria section of the screen. Enter *WATER* in the field under Contains. Click on Update. The search turned up 17 funds as of Oct. 9. For a list, click on Results. To rank the funds by performance, click on the Actions button, select Score Screen, and click on Create New Model. Click on the arrow to the right of Model and select Sample Model—Performance Persistence. Click on the Results button. JON ASMUNDSSON

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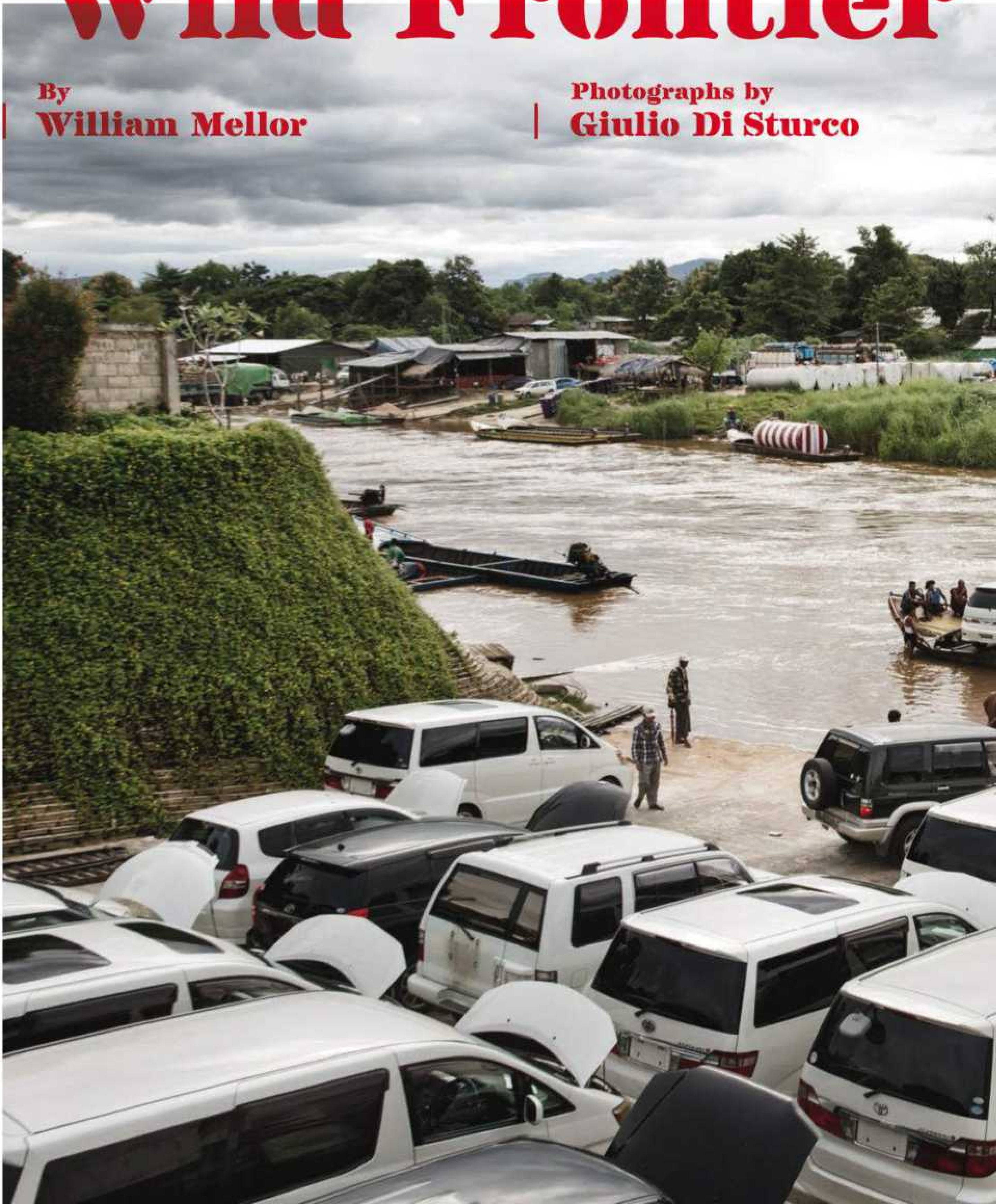
Taming a

Wild Frontier

By
William Mellor

Photographs by
Giulio Di Sturco



Prayuth Chan-Ocha, the general who runs Bangkok's ruling military junta, is making a big bet on his country's once-unruly border regions.

FOR MUCH OF THE PAST CENTURY, THE THAI BORDER TOWN OF MAE SOT STOOD ON ONE OF ASIA'S WILDER FRONTIERS.

On the opposite bank of the swirling, mud-brown Moei River in neighboring Myanmar, Karen insurgents waged a seemingly endless independence war. Smugglers trafficked guns, opium, timber, and gemstones. Then there was the two-way human cargo during the past three decades: 120,000 battle-scarred refugees seeking sanctuary in Thailand, battle-hardened mercenaries heading in the opposite direction.

In this unlikely outpost—and others like it along Thailand's 5,673 kilometers (3,523 miles) of borders—Prayuth Chan-Ocha, the general who runs Bangkok's ruling military junta, is making a big bet: that he can turn former war zones into some of Southeast Asia's most prosperous marketplaces. He's doing it by creating nine special economic zones that offer tax breaks and other incentives to investors venturing into now-peaceful border areas close to fast-growing Myanmar (formerly known as Burma), Vietnam, Cambodia, and Laos.

Low taxes are only part of the allure. Relying on a mix of government revenue, bond sales, and other funding, Prayuth plans to spend $83 billion over seven years on new railways, roads, and customs posts to establish cross-border trade routes. The idea is to link some 2.4 billion consumers in China and India with Asia's newest economic grouping, the ASEAN Economic Community, of which Thailand is a member. The 10-nation Southeast Asian common market, which opens for business on Jan. 1, boasts a combined economy of $2.3 trillion and a population of 625 million.

As well as sitting at the heart of the AEC, Thailand is less than 200 kilometers from China at its closest point. Across the river from Mae Sot, a city of 100,000, Myanmar provides a potential land bridge to India. Prayuth is determined that his country of 68 million people—despite a torrid recent political history of coups and chaos—will become the region's investor-friendly communications, trade, and logistics hub. "We have cleaned up our home to accommodate investors," says Atchaka Sibunruang, a longtime civil servant whom Prayuth appointed industry minister in August in a major government reshuffle aimed at reinvigorating growth.

Prime Minister Prayuth wants to turn now-peaceful battlefields into prosperous marketplaces.

Investors are taking note. Japanese and Chinese companies are competing to bid for some of the most strategic rail projects. Japanese firms are even eager to construct a line that would partly replicate the route of the World War II Thailand-Burma Death Railway immortalized on film in *The Bridge on the River Kwai*.

Thailand, Southeast Asia's second-biggest economy, is highly dependent on exports. It's one of the world's major suppliers of products as diverse as hard disk drives, automobiles, rice, and canned tuna. But since Prayuth seized power in May 2014, total exports have declined as global growth slowed and commodities prices plunged. According to government projections, shipments this year will slide 5 percent, while gross domestic product growth will be 2.7 percent, one of the slowest rates in Southeast Asia.

Consumer confidence fell for a ninth successive month in September, household debt is rising, the workforce is aging, and an El Niño–triggered drought has hit one-third of Thailand's 76 provinces, potentially damaging as much as 30 percent of the rice crop. A bomb that exploded in central Bangkok in August, killing 20 people, cast a pall over Thailand's booming tourism industry, which accounts for 10 percent of GDP.

Then there's political gridlock. When Prayuth overthrew the elected government following months of turmoil, he promised a swift return to civilian rule. More than 18 months later, no election date has been fixed. An impending royal succession has further clouded the country's future. The revered King Bhumibol Adulyadej, who turns 88 on Dec. 5, is the world's longest-reigning monarch, having ascended to the throne in 1946. Now, he's ailing and seldom seen in public. His heir is Crown Prince Maha Vajiralongkorn, 63.

Against this backdrop, Thai border trade looks promising. It's surging as less developed neighboring countries' economies expand at more than double, even triple, Thailand's pace. In the first eight months of 2015, Thai sales to Myanmar, Vietnam, Cambodia, and Laos jumped 8.1 percent to $14.5 billion. That accounted for 10 percent of Thailand's total exports. Mae Sot is setting the pace, with cross-border trade in 2014 close to $2 billion, a 250 percent increase over three years earlier.

Special economic zones in Asia are nothing new. In the 1980s, China's reformist leader Deng Xiaoping set up five

DARIO PIGNATELLI/BLOOMBERG

To handle increased traffic, the Thai government is building a **four-lane bridge** to Myanmar.

of them—including the border boomtown of Shenzhen, adjacent to Hong Kong—to help kick-start what is now the world's second-largest economy. While Mae Sot is no Shenzhen, it stands just 100 meters (330 feet) across the Moei from Myanmar, a once-isolated country of 54 million that's undergoing a helter-skelter political and economic transformation.

Once one of the world's poorest countries, Myanmar will grow at 8.5 percent this year, according to the World Bank. That's faster than even China or India. Equally significant, Mae Sot is located almost precisely midway between Bangkok and Myanmar's largest city, Yangon, formerly known as Rangoon. It also straddles a planned east-west rail and road corridor linking the Vietnamese port of Danang with the Indian subcontinent via Laos, Thailand, and Myanmar. "Today, Mae Sot is just a district, but it will become a great city," says Chaiya Yimwilai, a U.S.-educated vice minister in Prayuth's office.

Nascent signs of that are already apparent in Mae Sot. On the outskirts, a four-lane bridge to Myanmar is under construction to complement the two-lane structure that can handle only a fraction of the present trade. On a street once lined by simple so-called shop houses, a supermarket owned by the Thai unit of the British retail giant Tesco sprawls over a downtown block. Property prices have soared 500 percent in 10 years, according to the local chamber of commerce. Recent developments include upmarket apartments such as the unsubtly named Rich Condo.

The seriously rich Dhanin Chearavanont, billionaire chairman of Bangkok-based Charoen Pokphand Group, is building an industrial estate down the road. Another publicly listed company, Bangkok-based Saha Pathana Inter-Holding, has already opened one. Its modern, air-conditioned factories are a far cry from the Asian sweatshops of yesteryear. Young immigrant women from Myanmar, immaculately dressed in traditional saronglike longyis, turn out Guy Laroche handbags, Arrow shirts, Polo socks, and the like.

Down on the Moei riverbank, the Veerasomkiat family—which 10 years ago struggled to earn a living trading chilies, shallots, and the headache-inducing food additive monosodium glutamate—loads river barges with cars destined for the Myanmar market. The number of vehicles shipped by its company, Klang 9 Logistics, has risen from 1,000 a month in 2009 to 3,000 per month now. Admittedly, many of them are refurbished secondhand Japanese family sedans. "But these days we are also shipping some brand-new Ferraris, Rolls-Royces, and Bentleys," says Papawadee Teamjaijarean, 37, who helps her father, Surachai Veerasomkiat, run the business.

Barges used today may be replaced by land transport tomorrow as Presidents Xi Jinping of China and Narendra Modi of India plan new roads and railways that will meet up with the networks Thailand is building. "Being at the center of the region, Thailand has advantages other countries don't have," says Chompoopen Sirithorn, who helps manage $36 billion for the Social Security Office, Thailand's biggest pension fund. "The border trade is its one bright spot and will attract overseas investors."

Former Glencore International Chairman Simon Murray says he will be watching Thailand's new border economic zones closely but cautiously. Hong Kong–based Murray has investments in Myanmar

Border Bonanza

Exports from Thailand to four fast-growing neighbors shot up as shipments to China, Japan, and the European Union declined.

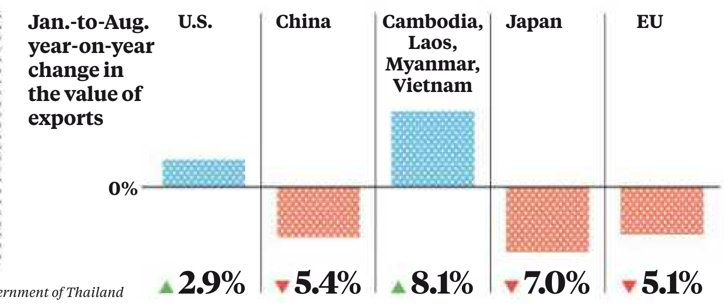
Total Thai Exports

2014

$227.5 Billion

Jan.–Aug. 2015

$142.7 Billion



Sources: Bloomberg, Government of Thailand

ranging from an oil services company to a distillery that produces a 43-percent-proof local whiskey named High Class. He hopes to export spirits overland through Thailand but notes that the border trade depends on continuing warming political relations between former enemies. Thais have never forgotten that invaders from Myanmar sacked the then–Thai capital, Ayutthaya, in 1767.

And more-recent conflicts, between the Myanmar central government and a dozen

'There's a lot of potential but also a lot of history,' says former Glencore International Chairman Simon Murray, referring to Thailand's borders and the bloody conflicts that have occasionally erupted along them.

Workers toil over sewing machines at a **Saha Pathana** factory in Mae Sot.

ethnic rebel groups, including the Karen across the border from Mae Sot, have been papered over by tenuous peace treaties. During the Vietnam War, which ended in 1975, Thailand sided with the U.S., letting it bomb Vietnam, Cambodia, and Laos from Thai bases. "There's a lot of potential but also a lot of history," says Murray, whose firm, Simon Murray & Co., is backed by Asia's richest man, Li Ka-shing.

That said, the lure of Mae Sot seems likely to win over Taiwanese businessman Chia-tse Lee, 60, president of Taipei-based Danee Silk International. Lee owns one silk factory in China's Zhejiang province. Now, he says, Mae Sot could be the site of his next expansion. "There is more energy here," he says during an interview in Mae Sot. Although much of Mae Sot's labor comes from across the border in poorer Myanmar, local businesses still pay the minimum daily rate of 300 Thai baht ($8.50).

In a country with one of the world's lowest unemployment rates—0.97 percent—a chronic labor shortage means few Thais are interested in such jobs. But the pay is enough to lure the likes of Ma Cherrg, 24, a university graduate from Myanmar, to swap her law books for a slot on a Mae Sot production line. "This place is good to work, and it is also safe," she says, referring to the fear of human trafficking that still pervades wilder border areas.

Life on the Thai-Myanmar border is still grim for many, as a visit to physician Cynthia Maung's Mae Tao Clinic in Mae Sot testifies. Maung, 56, fled Myanmar in 1988 after the then–ruling generals brutally put down Aung San Suu Kyi's democracy movement. Today, backed by donors such as investor George Soros, she treats for free many of the 120,000 refugees still fearful of returning home and, increasingly, immigrant workers who have missed out on Mae Sot's boom. "The peace process in Myanmar is still very fragile," she says. "And with land becoming so expensive in Mae Sot, the poor get poorer."

Despite the city's success so far, even the generals who seized power in the 2014 coup are hedging their bets. In September, the government announced tax breaks to attract investors to more-developed parts of the country. They also earmarked two popular tourist destinations, the resort island of Phuket and the historic walled northern city of Chiang Mai, as potential technology hubs. "Talented people in the software industry would like to live in a beautiful environment so they can think better," says Industry Minister Atchaka. Until that happens, though, adventurous investors may find more opportunities on Thailand's once-wild frontiers. BM

With assistance from **Anuchit Nguyen** and **Supunnabul Suwannakij**.

BLOOMBERG TIPS

Comparing Thailand

To compare Thailand's country risk with other nations', you can use a sample Bloomberg spreadsheet. Type **XLTP XCRA <Go>** on the Bloomberg Professional service and click on the Open button. On the Country View tab of the spreadsheet, click on the arrow to the left of Country Selection and select Thailand. As of Oct. 9, Thailand's Country Risk Score, which is based on a combination of financial, economic, and political metrics, was 65.95. Click on the Risk Score Analysis–Relative tab to compare Thailand with 80 other countries. For an overview of Thai financial regulations, you can use the Asia Regulatory Information (AREG) function. Type **AREG <Go>** and click on Thailand. JON ASMUNDSSON

ASEAN's Common Thread

Bangkok Bank weaves together global and regional investment in Southeast Asia

It's an exciting time to be doing business in Southeast Asia. As the 10 member states of the Association of Southeast Asian Nations (ASEAN) implement the policies of the ASEAN Economic Community (AEC), scheduled to take effect from the end of December, the region will continue to draw global investment and expand intra-regional trade. Economic integration will create a business-friendly environment with reduced barriers to trade and investment, harmonized customs procedures, a robust financial sector with a freer flow of capital, and a diversity of regional talent. As a single market and production base, ASEAN has over 600 million consumers and a combined GDP of almost $3 trillion.

The opportunities are not without challenges, as ASEAN presents a wide variety of capabilities among its members in areas such as logistics services, infrastructure development and human-resource education and training.

Within this patchwork, Bangkok Bank is a trusted partner with longstanding region-wide operations and global reach. One of ASEAN's largest regional banks, it has established 30 overseas branches in 14 economies, including nine within the AEC. Beyond Southeast Asia, its global presence includes New York, London, Taipei and Tokyo, plus five major Chinese cities. In fact, Bangkok Bank is the only Thai bank with a local license in China.

Bangkok Bank also has a unique reach into the Greater Mekong Subregion, an economic area that includes Myanmar, Laos, Cambodia and Vietnam, with a total population of over 300 million.

"Thailand is in an outstanding position to benefit from the upcoming AEC," says Bangkok Bank President Chartsiri Sophonpanich. "Thanks to its geographic position, the country is a natural logistics and transport hub for the region, particularly to high-growth neighboring countries.

"As one of the region's leading regional banks, Bangkok Bank supports the AEC and Asia's economic expansion by using our extensive and well-developed branch network, longstanding relationships and local knowledge to connect investors, financiers and enterprises as business partners," he says. "We understand the level of care and commitment to our customers required to succeed in this exciting and dynamic environment."

Bringing all these pieces together is not unlike the traditional art of Thai silk weaving: With every fiber loomed into a pattern, a masterpiece is born. Bangkok Bank has built a financial tradition over the years with patience and persistence, and this wide-ranging enterprise will continue to bring the best to the region.

Whatever your market, we've got you covered

Credit

- Comprehensive coverage includes Investment Grade, High Yield, Structured Finance, Loans, and Emerging Markets.
- Evolution of new deals from rumour and mandate, through guidance, launch, and pricing supported by insightful commentary.
- Daily briefings – easy reference detailing market-moving developments & upcoming issuance.
- Supported by an extensive. database of public deals, including league tables, volume reports, deal lists and distribution statistics.
- Renowned market professionals have extensive experience and are trusted sources on the Street.

FX

- Comprehensive FX offering covering FX Majors, Emerging Markets, FX options and Central Banks.
- Market leader for inside track information on fx flows.
- Rapid interpretation of price moves.
- Award-winning technical analysis with actionable trading ideas.
- Around the clock Market Pulse coverage – 24 hours a day from a team of market experts located in London, New York, Tokyo, Hong Kong, Shanghai & Singapore.

STRATEGIES

FIXED INCOME

Planning for an Interest Rate Shock

You can use PORT to create custom curve-shift scenarios, see how they would impact your bond portfolio, and then optimize your duration strategy to maximize profits.

BY LYNDSAY MAGGIN

IN A RISING-RATE environment, the performance of your bond portfolio will be determined by your term-structure strategy.

To analyze the effects of interest-rate-curve changes on your portfolio, you can use the Portfolio & Risk Analytics (PORT) function to create custom interest rate shocks and see how they impact your profit and loss. You can then use the PORT optimizer to identify trades that could adjust your duration strategy to maximize profits.

To generate some ideas for possible U.S.-sovereign-curve scenarios, let's start by looking at expectations for federal funds moves implied by the futures market. Type **WIRP <Go>** on the Bloomberg Professional service for the World Interest Rate Probability function. Click on the arrow to the right of the field in the upper-left corner of the screen and select United States if it isn't already selected. As of Oct. 9, WIRP showed that the probability of a rate rise at the Federal Open Market Committee's December meeting was only 38.8 percent. The probability of a move at the March 2016 meeting was 62.1 percent, with a 42.9 percent probability that the range will be between 0.25 and 0.5 percent.

Next, type **BYFC <Go>** for the Bond Yield Forecasts function. BYFC shows that by the second quarter of 2016, the median analyst forecasts put the rate in a range from 0.58 to 0.8 percent, suggesting two quarter-point moves.

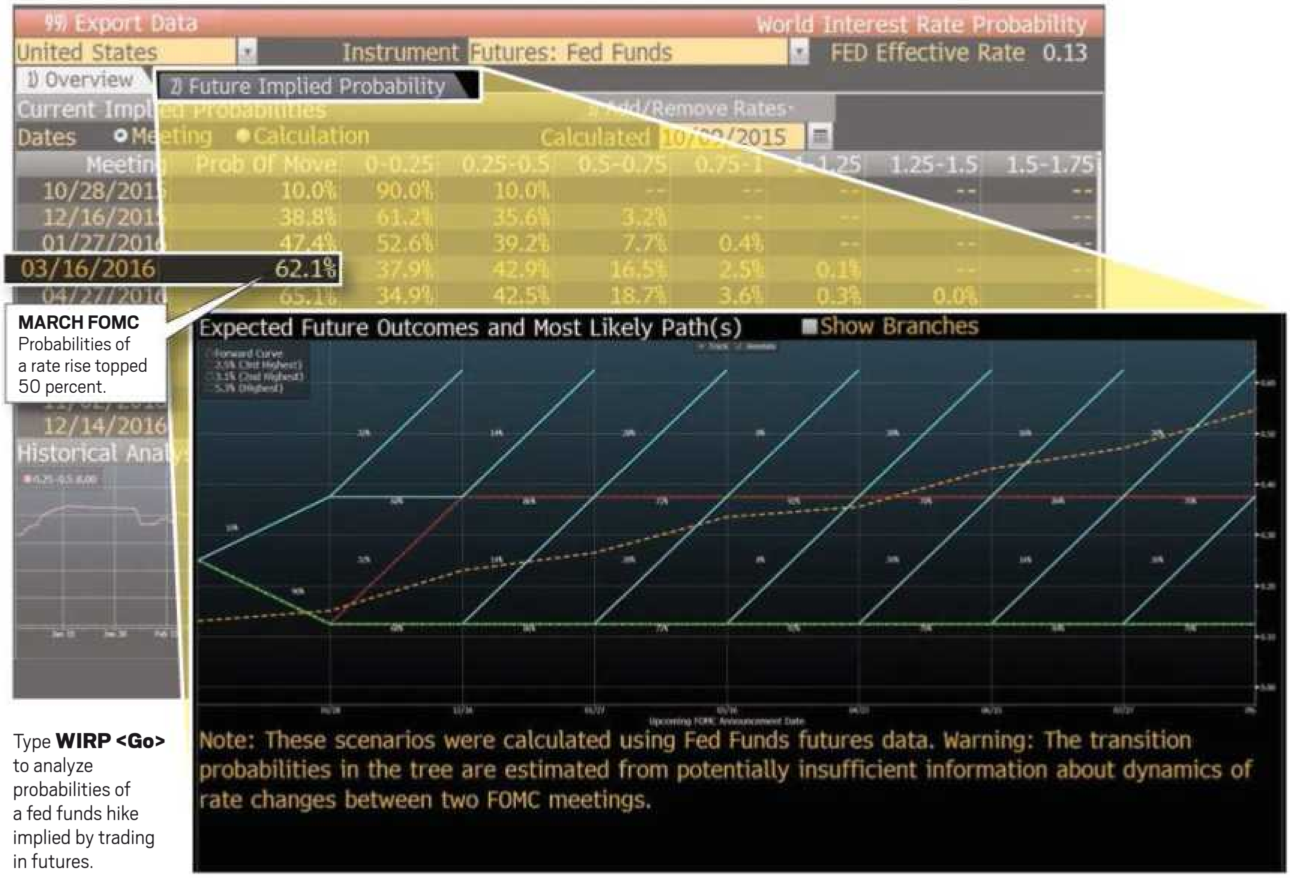
A Fed hike could lead to a bear market steepening or flattening of the U.S. sovereign curve. To test how those developments would impact the P&L of a portfolio, let's create a couple of custom scenarios, assuming a rate hike of 50 basis points by the second quarter of 2016.

TIP BOX

Type **FWCM <Go>** to display forward rates that you can base scenarios on.

AS A SAMPLE portfolio, let's use the Bloomberg USD Global Corporate Investment Grade Bond Index. Type **BUSCBBB <Index> PORT /I <Go>**. The effective duration of the index was about 7.3 years as of Oct. 9. Click on the Characteristics tab to view fundamental metrics for the portfolio.

Click on the Scenarios tab and then on the arrow



MARCH FOMC Probabilities of a rate rise topped 50 percent.

Type **WIRP <Go>** to analyze probabilities of a fed funds hike implied by trading in futures.

to the right of Scen. Then select Edit/Create New. In the Select Scenario window that appears, you can access Bloomberg's ready-made scenarios as well as create your own custom ones. PORT runs two types of scenarios: factor based and full valuation.

Factor-based scenarios use historical volatilities and correlations between the interest rate shocks you select and all of the other factors in the Bloomberg model. If you're analyzing a multi-asset portfolio, you'd likely opt for factor-based scenarios.

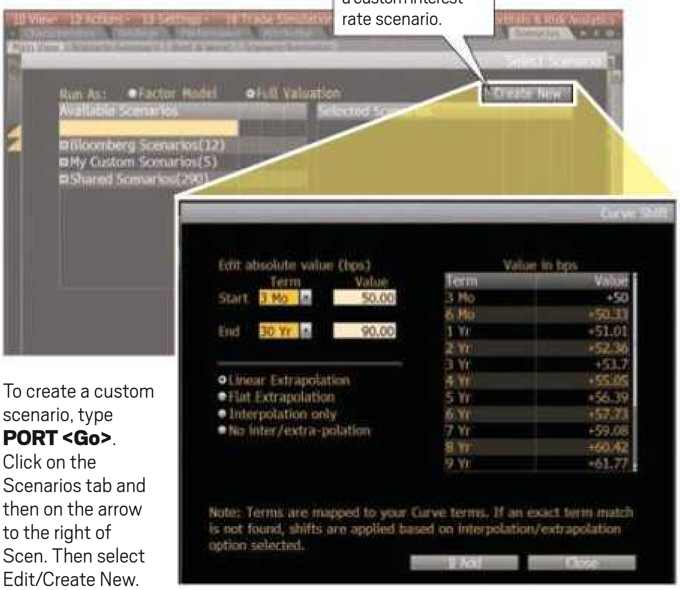
For a fixed-income portfolio, you'd generally choose the full-valuation methodology: Full-valuation scenarios reprice each bond individually based on its current option-adjusted spread and the curve shock. The resulting P&L of the portfolio is made up of the aggregate change in prices plus any additional cash flows—coupon payments or principal paydowns—received from the "as of" date through the horizon period. Click on the circle to the left of Full Valuation if it isn't already selected. Then click on the Create New button.

In the Scenario Manager screen that appears, click on the IR tab and then on the Treasury Curve Shift/Muni Curve Shift subtab. Under Currency, click on the arrow to the right of Select and select USD. Next, click on the arrow to the right of Parallel under Type and select Flatten/Steepen.

IN THE CURVE Shift window that appears, let's set the three-month rate to reflect an assumed 50-basis-point rise. In the VALUE field to the right of Start, enter *50*. In this scenario, we expect a bear-market steepener, in which the long end of the curve increases at a faster rate than the short end. Let's assume that the 30-year rate will increase by 90 basis points. Enter *90* as the value to the right of End. You can then use linear extrapolation to shift the remaining maturities on the curve. Click on the circle to the left of Linear Extrapolation and then on the Add button.

To save the scenario, click on the Actions button on the red tool bar and select Save. Enter a name such as *BEAR STEEPENER* in the NAME field and

CREATE NEW
Click here to create a custom interest rate scenario.



To create a custom scenario, type **PORT <Go>**. Click on the Scenarios tab and then on the arrow to the right of Scen. Then select Edit/Create New.

P&L
The portfolio would lose 2.38 percent under the steepener scenario.

Once you've created your custom scenarios, click on the Analyze in PORT button, select them, and click on Save & Run.

click on the Save button. To create a flattener scenario, click on the Actions button and select New Scenario. You'd then repeat the previous steps but make the short end of the curve increase at a faster rate than the long end.

Once you've created your custom scenarios, click on the Analyze in PORT button. In the Select Scenario window that appears, click on the plus sign to the left of My Custom Scenarios. Then click on the blue plus signs to add them to the list of Selected Scenarios. Click on Save & Run.

CONSTRAINTS
Here, you can limit key rate durations at longer tenors.

In PORT, click on the Trade Simulation button and then on Launch Optimizer to create a task such as this one that shortens the duration of a portfolio.

You can now run these scenarios over a specified horizon. Click on the arrow to the right of Horizon, select 6 Months (180 Days), and press <Go> to match a potential Fed move by the second quarter.

Because of the long duration of the index, the portfolio shows a 2.38 percent loss over the six-month horizon in the steepener scenario. The flattener produces a 0.08 percent profit.

IF YOU THINK that the probability of the curve steepening by the second quarter is greater than the likelihood of flattening, then you might want to rebalance the portfolio to reduce the potential loss. To use the PORT optimizer to generate trades that could mitigate the loss from the steepener scenario, click on the Trade Simulation button and select Launch Optimizer.

The PORT optimizer breaks the process into four steps: Goals, Trade Universes, Constraints, and Security Properties. Given the losses in the bear-steepener scenario, you may want to reduce exposure to long-term interest rates. You could do that by setting constraints that limit key rate durations at longer maturities while increasing them at shorter maturities. In addition, you could set a goal of maximizing option-adjusted convexity (which would minimize the portfolio's sensitivity to rising rates).

Once you run an optimization, click on the Analyze in PORT button to see how your theoretical rebalanced portfolio would perform under these scenarios. Running such an optimization in October reduced the loss under the curve-steepener scenario to 0.93 percent from 2.38 percent.

Lyndsay Maggin is on the staff of the Portfolio & Risk Analytics department at Bloomberg in New York. lmaggin@bloomberg.net

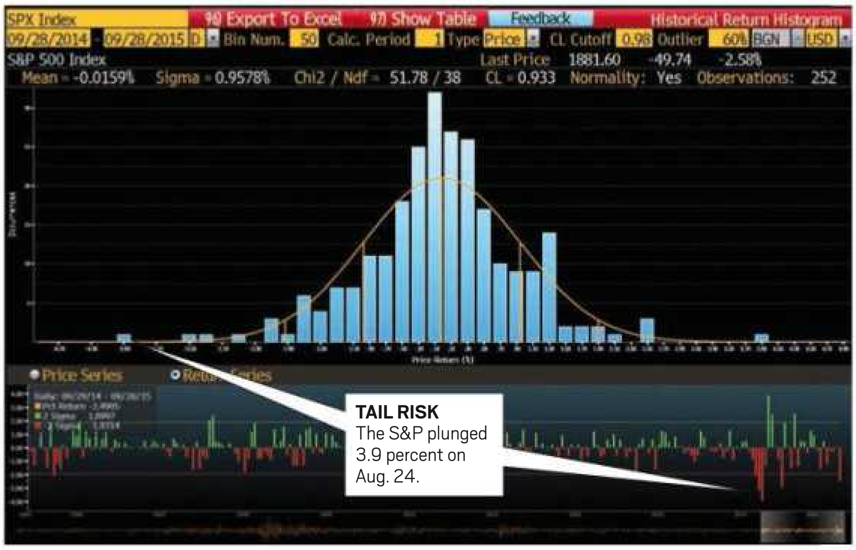
Tracking a Huge Tail-Risk Bet

BY MARK BOARDMAN

A MYSTERY INVESTOR who for months rode a massive long-shot bet that the implied volatility of the U.S. stock market would skyrocket probably pocketed millions of dollars in August.

You can use options-related functions on the Bloomberg Professional service to track the huge wager, see how it may have paid off—and potentially get insight into how you can protect yourself against tail-risk events.

Tail risk, of course, refers to unusual events that wouldn't be expected in a normal distribution of returns. To chart the returns of the Standard & Poor's 500 Index with the Historical Return Histogram (HRH) function, type **SPX <Index> HRH <Go>**. In the lower section of the screen, click on the circle to the left of Return Series to select it. The longest red bar in 2015 is for Aug. 24, the day the S&P 500 plunged 3.9 percent. That drop was about a four-standard-deviation move.



Type **SPX <Index> HRH <Go>** for a histogram of S&P 500 returns.

Back in April, the mystery investor had started positioning for that sort of plunge. To do that, the investor executed a call-ratio spread using options on the VIX, or the Chicago Board Options Exchange Volatility Index.

A call-ratio spread typically involves one short call and two long calls at a higher strike price. The premium collected on the short call—which grants to another party the right to buy the underlying asset at a set price—would help to pay the premium spent on the two long calls. As the underlying index rises above the lower strike of the short call, the strategy starts to incur an increasing loss. As the index rises higher, though, gains from the two long calls start to reduce the loss. At a higher level still, the strategy starts generating a profit.

The unknown investor renewed the bet on the VIX four times. You can use the Most Active Options (OMST) function to see the spikes in volume each time that happened. Type **VIX <Index> OMST <Go>**. Click on Historical above the graph in the upper-right corner of the screen. Next, to graph call volume, click on the chart icon to the right of Call under Volume. The icon should turn blue to indicate you've selected it. Then click on any other blue chart icons to remove those lines from the graph. For a bigger chart, click on the pop-out icon.

THE SPIKE ON the chart on April 10 represents the first time the investor entered the wager. The four subsequent spikes at monthly intervals are the occasions on which the investor rolled the bet forward—exchanging options of one expiration for similar instruments that expired the following month.

A Bloomberg News story in May reported that when the investor first renewed the bet, about $99

TIP BOX

Type **OSA <Go>** to analyze payoffs from options scenarios.

Rates and Credit

PRICE DISCOVERY

ALLQ <Go>
displays current market data for a selected bond.

FIPX <Go>
lets you analyze prices for a selected bond.

IMGR <Go>
consolidates price data from your messages and other sources.

QMGR <Go>
displays prices for a selected security from your incoming messages and dealer pages.

TDH <Go>
displays the trade history for a selected bond.

ANALYTICS

YAS <Go>
lets you analyze the spread, price, and yield for a selected bond.

FIW <Go>
lets you analyze a list of bonds.

FISA <Go>
analyzes a scenario on a selected bond.

DRSK <Go>
estimates default risk for a selected company.

RELATIVE VALUE

FIRV <Go>
lets you analyze relative value on a selected bond.

COMB <Go>
lets you compare a selected bond with similar instruments.

MONITORS

WB <Go>
monitors world bond markets.

WBF <Go>
monitors world bond futures trading.

WBX <Go>
monitors world bond spreads.

CDX <Go>
monitors credit-default-swap indexes.

↑ **MIPR <Go>**
displays market-implied policy rates for countries around the world.

ECBB <Go>
displays data on the European Central Bank's bond buying.

BTMM <Go>
monitors Treasury and money markets for a selected country.

WBIX <Go>
lets you track Bloomberg Bond Indexes.

IRSB <Go>
displays real-time interest-rate-swap price data.

FICM <Go>
lets you monitor corporate bond markets.

USSW <Go>
monitors interest-rate swaps.

GC <Go>
lets you graph and compare curves in real time.

TRADING

FIT <Go>
is the electronic trading platform for U.S. rates and other sovereign debt.

TICKETING

BXT <Go>/ SXT <Go>
creates buy or sell tickets for a selected security.

Compiled by
JON ASMUNDSSON
jasmundsson@bloomberg.net

BIG WAGER Volume spikes represent the investor renewing the bet.

Type **VIX <Index> OMST <Go>** for the most-active options on the VIX.

million of options on the VIX changed hands in a single second: 12:16:04 p.m. on May 11. The 40 trades that took place in that second represented more than half of average daily volume.

Bloomberg data on subsequent trades showed that as of Aug. 10, the investor's call-ratio spread consisted of 188,687 short calls with a strike price of 15 and 346,374 long calls with a strike of 21.

ON AUG. 10, the VIX was at 12.2. Less than two weeks later, on Friday, Aug. 21, it rose to 28. The following Monday, Aug. 24, it spiked to 40.7.

If you'd typed VIX <Index> OMST <Go> on that day, you would have seen that the 15- and 21-strike options were the day's most active, with volumes of about 120,000 and 300,000 respectively. If you'd then right-clicked on the 15-strike calls in the table at the bottom of the screen and selected TSM–Trade Summary of Price Levels–VWAP, you'd have seen a summary of the day's trades sorted into price buckets. To sort the list by volume, right click on the Volume column heading and select Sort Descending. On Aug. 24, most of the volume—almost 118,000 calls—was at prices of 6.17 and 6.18.

Clicking on the Top Trades tab, entering 6.17 and 6.18 in the Price Filter fields, and pressing <Go> would have showed that the biggest trades happened in a 30-minute period on Aug. 24.

With the VIX that high, the only investor interested in 15-strike calls would likely be one who was unwinding a position. A similar analysis on the 21-strike calls showed that the bulk of those—about 260,000—traded at around the same time as the 15-strike calls, with some executed simultaneously.

So, assuming the single investor was responsible for all of that volume, you could estimate the total profit on the bet. First, 260,000 21-strike calls priced at 1.05 when the trade was executed and sold at 3.60 on Aug. 24 would have netted $66.3 million. Second, 118,000 15-strike calls priced at 2.10 initially and then at 6.175 on Aug. 24 would have cost about $48.1 million. Put together, the total profit would have been $18.2 million.

In OMST, click on an option and select TSM to see volume at various price levels.

How lucky was the mystery investor? Very. Most of the trades on Aug. 24 were executed when the VIX was above 28. The index has hit that level or higher only 12 percent of the time since 1990.

Hitting the really big payoffs at 35 and above would have required even more luck: The index has been in that territory only 4.5 percent of the time.

TOP TRADES The table shows that most of the volume that day happened in a 30-minute period.

Mark Boardman is an equity market specialist at Bloomberg in New York. mboardman1@bloomberg.net

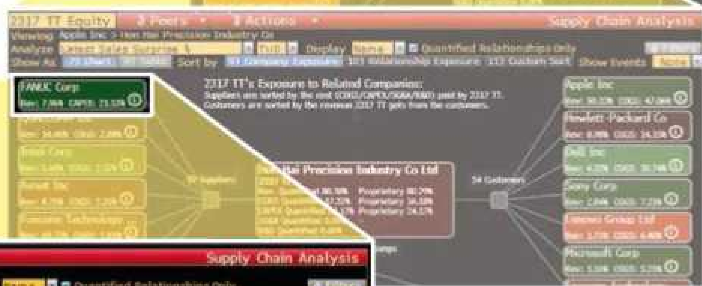
Following the Supply Chain to Find Investment Ideas

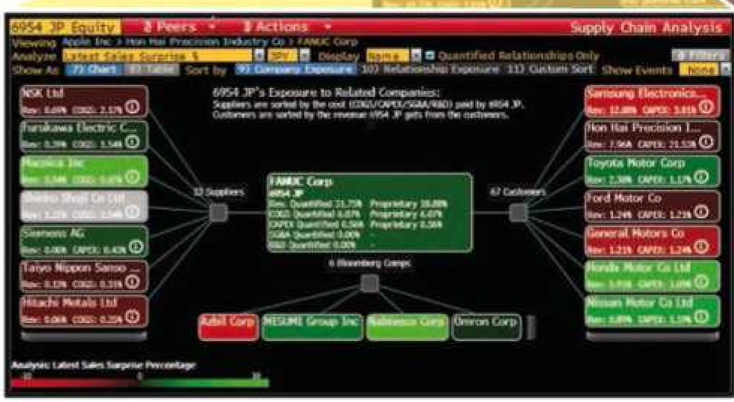
BY LEE O'DWYER, CFA, AND DEBBIE MASSIELLO

THE SMARTPHONE MARKET is maturing: Competition is rising in China, global shipments are slowing, and prices are declining.

To evaluate the effects of such market developments, you can use the Supply Chain Analysis (SPLC) function to connect the dots among companies. Let's start with iPhone maker Apple, for example. Type **AAPL US <Equity> SPLC <Go>** on the Bloomberg Professional service. To show company names instead of tickers, click on the arrow to the right of Display and select Name if it isn't already selected.

DRILLING DOWN
Click on Apple's biggest supplier to see its suppliers.





Type **SPLC <Go>** to analyze the supply chain of a selected company.

The company in focus is shown in the center of the SPLC screen. On the left side of the screen are its suppliers, which are organized according to the costs paid to them by the center company. On the right side are its customers, which are arranged by the revenue received from them by the center company. The color coding is determined by the metric selected in the ANALYZE field in the upper-left corner of the screen.

With Apple, investors have devoted a lot of attention to its biggest supplier, Hon Hai Precision Industry. The Taipei-based contract electronics manufacturer, which is also known as Foxconn, accounts for 47 percent of Apple's cost of goods sold. But who supplies Hon Hai?

TO FIND OUT, click on Hon Hai on the left side of the screen so it will move to the center. The No. 1 supplier to Hon Hai, it turns out, is Fanuc, which as of Oct. 9 accounted for 21.5 percent of Hon Hai's capital expenditures. Let's follow the supply chain further: Click on Fanuc so that it moves to the center of the screen and you can see who its suppliers and customers are.

Fanuc, whose headquarters are located at the foot of Mount Fuji, southwest of Tokyo, is the world's biggest supplier of industrial robots. Its computerized

TIP BOX

Type **NI SPLC <Go>** for news stories related to supply chains.

CUSTOMERS
Click here and here to analyze companies that buy from Fanuc.

Name	Country	Sales Surp % LF	Market Cap	Proj.Sales Gr.(Abs)	%Revenue	Relationship Value (Q)	Account As Type	%Cost	Source	As Of
21) Automobiles & Components (13 securities)										
Average		0.93%	4.80T	-3.47%	0.57%	1.11B		1.59%		
Sum		10.18%	62.39T	-34.66%	7.43%	14.37B		20.67%		
22) Toyota Motor Corp	JP	2.43%	25.02T	2.53%	2.38%	4.60B	CAPEX	1.17%	Estimate	07/31
23) Ford Motor Co	US	-0.99%	7.30T	-5.85%	1.24%	2.39B	CAPEX	1.21%	Estimate	07/31
24) General Motors Co	US	-5.42%	6.30T	1.09%	1.21%	2.34B	CAPEX	1.24%	Estimate	07/31
25) Honda Motor Co ...	JP	7.50%	6.92T	-2.40%	0.91%	1.77B	CAPEX	1.07%	Estimate	07/31
26) Nissan Motor Co ...	JP	4.94%	5.38T	2.78%	0.89%	1.71B	CAPEX	1.19%	Estimate	07/31
27) Suzuki Motor Corp	JP	3.26%	2.18T	-0.70%	0.37%	713.82M	CAPEX	1.16%	Estimate	07/31
28) Peugeot SA	FR	1.33%	1.64T	-17.82%	0.23%	454.37M	CAPEX	0.93%	Estimate	07/31
29) Unipres Corp	JP	-2.13%	126.70B	3.72%	0.10%	194.03M	CAPEX	2.64%	Estimate	07/31
30) Hyundai Wia Corp	KR	-1.36%	371.89B	-7.12%	0.05%	88.26M	CAPEX	2.19%	Estimate	07/31
31) Yachiyo Industr...	JP	--	25.27B	--	0.04%	85.36M	CAPEX	4.12%	Estimate	07/31
32) Volkswagen AG	DE	3.81%	7.11T	-10.89%	0.01%	17.12M	CAPEX	0.42%	Estimate	07/31
33) Yasunaga Corp	JP	-3.20%	7.03B	--		8.05M	CAPEX	1.66%	Estimate	07/31
34) Sakurai Ltd	JP	--	2.26B	--		2.95M	CAPEX	1.61%	Estimate	07/31
35) Capital Goods (47 securities)										
Average		2.54%	2.18T	9.33%	0.07%	127.73M		1.75%		

SPLC lets you dig into sales trends at a company's customers.

controls, used in more than half of the world's machine tools, give lathes, grinders, and milling machines the ability to turn metal into just about any manufactured product, from a titanium hip implant to the shiny metal band that wraps around some iPhones.

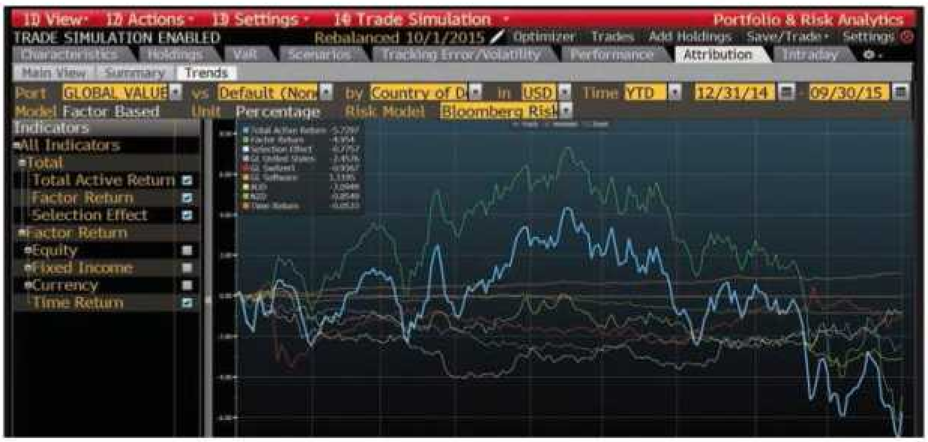
In February, Daniel Loeb's Third Point hedge fund said it had bought a stake in Fanuc. "Virtually every large manufacturing footprint expansion in North America—from Airbus Group to Ford Motor to Tesla—is taking place with Fanuc's robots," Third Point said in a letter to investors. "Chinese factory automation is a substantial growth opportunity as rising wages, low productivity, and quality issues force companies in the region to automate."

After Third Point's announcement, the stock rose 33 percent to a high of 27,700 yen on June 2. The global selloff beginning in August erased most of those gains. Fanuc traded at 20,775 yen as of Oct. 9, up 4 percent this year.

A QUICK LOOK at Fanuc's customers in SPLC shows a concentration of automotive companies: Five of Fanuc's top 10 patrons are carmakers, according to Bloomberg estimates. The full list of 67 customers is fairly diverse, though. Fanuc's sales jumped more than 60 percent in fiscal 2015 from the year before, but future growth depends on its customers' increasing revenues. For an overview of sales projections for Fanuc's customers, click on the arrow to the right of Analyze and select Projected Sales Growth (Absolute).

To identify potential strengths and weaknesses among Fanuc's customers, click on Table and then on Customers. To sort the list by the percentage of Fanuc's revenue that each company accounts for, click on the % Revenue column heading.

To group the customers by industry, click on the arrow to the right of Grouping and select Industry Group (GICS). Click on the plus sign to the left of Automobiles and Components to expand the list. Next, click on Stats at the bottom of the screen. In the Statistics window that appears, click on the boxes to the left of Average and Sum so that a check mark appears. Then click on Update. As of Oct. 9, carmakers accounted for 7.4 percent of Fanuc's revenue. Tab in to the ADD field, enter *SALES SURPRISE*, and click on the Sales Surprise Percentage item in the list of matches. Then click on Latest Filing. The sales surprise of Fanuc's customer base averaged less than 1 percent last quarter, with negative projected sales growth.



To evaluate the effects of adding a stock such as Fanuc to your portfolio, you can use the Portfolio & Risk Analytics (PORT) function. Type **PORT <Go>** and select your portfolio. Click on the Trade Simulation button on the red tool bar and select Simulate Trades. Click on Add Holdings, enter a ticker and position, and click on Recalculate to evaluate the potential effects on risk and return.

Type **PORT <Go>** to analyze the effects of adding a stock to your portfolio.

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Q: How can I stay on top of market-moving alerts?

A: The new Bloomberg Alert Catcher function consolidates all of your breaking news alerts along with price notifications and data releases. Type **BLRT <Go>** on the Bloomberg Professional service. For a component you can incorporate into your Launchpad view, type 200 <Go>. The boxes in the upper-left corner of the component let you specify that you want to see your Personal alerts—ones you've set up—as well as Suggested alerts on breaking news and price action that Bloomberg will push to you based on your interests. Suggested alerts include major market moves across all asset classes, urgent headlines, live blogging, and news breaking on television that may be integral to your decision making. To control the flow of suggested alerts, you can use the Importance slider: To see only the most important alerts, slide to the right. If you want to see additional notifications similar to a particular suggested alert, click on the thumbs-up icon. If you don't, click on the thumbs-down icon. To understand why an alert was pushed to you, click on the *i* icon. You can modify your profile by clicking on the blue link.

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